



Techn. 2°

Application

$1^{\frac{k}{=}}$

UNITED STATES PATENT OFFICE.

In re Application of

DANIEL DRAWBAUGH,

FILED APRIL 3, 1884, No. 126,527.

DIVISION OF APPLICATION FILED JULY 26, 1880, No. 14,040.

TELEPHONES.

PUBLIC USE AND SALE PROCEEDING.

TESTIMONY TAKEN BY THE PATENT OFFICE.

JULIAN C. DOWELL,
Counsel for the Patent Office.

CHURCH & CHURCH,
Attorneys for Drawbaugh.

(1892)

123



BEFORE THE COMMISSIONER OF PATENTS.

IN THE MATTER OF THE APPLICATION OF DANIEL DRAWBAUGH,
FILED APRIL 3d, 1884; SERIAL NO. 126,527. TELEPHONES.

PUBLIC USE PROCEEDING.

LABORATORY OF THOMAS A. EDISON,
Orange, N. J., January 30, 1890.

Present: Julian C. Dowell, counsel for Patent Office, and Joseph B. Church, esq., attorney for Drawbaugh.

Met pursuant to annexed notices, but by reason of the sickness of witnesses on behalf of the Patent Office it is stipulated and agreed between counsel present that the taking of testimony at Orange, N. J., be postponed to Monday, February 3d, 1890, at 10 o'clock a. m., at the same place.

It is further agreed between counsel that the examination of witnesses in New York City be commenced to-morrow, Friday, January 31st, 1890, at a time and place to be hereafter agreed upon.

SCHOOL OF MINES, COLUMBIA COLLEGE,
New York, February 1, 1890.

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF PROFESSOR CHANDLER.

CHARLES F. CHANDLER, being duly sworn, doth depose and say, in answer to questions proposed by Mr. Dowell, as follows:

Q. 1. What is your name, age, residence, and occupation?

A. Name, Charles F. Chandler; 53 years of age; am a chemist by occupation; residence, New York City.

Q. 2. What was your occupation in 1878?

A. My main occupation was then as now, but I had in addition a special occupation. I was president of the board of health of the city of New York.

Q. 3. State whether in either capacity you had anything to do with telephones, and more particularly with the instrument known as the Edison carbon telephone.

A. In both capacities I had to do with telephones, and especially with the Edison carbon telephone. As lecturer on physics in the College of Physicians and Surgeons I was very much interested in the development of the art of telephoning. I watched the progress of the art of telephoning and procured from time to time specimens of the new telephones in order to exhibit them at my lectures and explain them to my pupils. I also constructed a private telephone line between my house and School of Mines, and I also, as president of the board of health, employed the Gold and Stock Telegraph Company to put up and equip for me a private telephone line, with several stations, extending from the office of the board of health, No. 301 Mott street, to my house in East 54th street. Both these lines—my private line and the board-of-health line—were provided with Edison carbon transmitters.

Q. 4. Under what circumstances did you first have knowledge of the Edison carbon telephone?

A. I cannot say at this time whether I received my first information of the carbon telephone from Edison himself, from Professor Barker of Philadelphia, Professor Morton of Hoboken, or from printed publications. I was personally acquainted with Mr. Edison and saw him occasionally, and Professor Barker and Professor Morton are among my most intimate friends. They were both very much interested in telephones; in fact, the first telephones I ever possessed were made for me by Professor Morton.

Q. 5. State whether or not you have purchased and owned any Edison carbon transmitters. If so, under what circumstances and from whom did you purchase them?

A. I have purchased and I still own two Edison carbon transmitters with induction-coils in boxes complete. I purchased them in the summer of 1878. Some time in June of that year I applied to the Gold and Stock Telegraph Company for a variety of telephones, and they supplied me with two Phelps hand telephones, two Gray hand telephones, two Edison carbon transmitters with induction-coils, etc. Subsequently I obtained several other telephones.

Q. 6. Have you any memoranda or correspondence bearing on this subject that will enable you to fix the time when you purchased these telephones as you have stated, and, if so, will you produce it?

A. I have several letters and other papers relating to the purchase of these telephones. The first is a letter dated June 29th, 1878, from George B. Scott, superintendent of the Gold and Stock Telegraph Company; second, my check for \$82, dated July 5th, 1878, payable to the order of George B. Scott, which I sent to Mr. Scott to pay for the telephones, and which came back to me from the bank in the ordinary course of business; third, a letter dated July 6th, 1878, addressed to

me by Mr. George B. Scott; fourth, a letter dated July 23d, 1878, addressed to me by Mr. George B. Scott; fifth, a letter dated July 27th, 1878, addressed to me by Mr. George B. Scott; sixth, the receipted bill for six telephones, dated August the 2d, receipted August the 2d, and addressed to me. These are all the documents I have been able to find among my papers relating to the purchase of telephones at this time.

Q. 7. Are you willing to part with these papers and allow them to be offered in evidence on the part of the Patent Office?

A. I am; they are of no value to me.

(The papers produced by the witness are offered in evidence and marked Chandler's Exhibits, Scott-Chandler, 1878, correspondence, Nos. 1, 2, 3, 4, 5, and 6.)

Q. 8. State your recollection as to the dates on which you received these letters, and your recollection concerning the matters set forth therein.

A. I recollect the transaction to which these letters and other documents relate, and I received these papers at the dates indicated by them, and they have been in my possession ever since that time in a box of papers and pamphlets relating to telephones. The transaction grew out of a desire on my part to possess a collection of telephones, in order that I might experiment with them, and use them, and exhibit them to my students.

Q. 9. What disposition was made of the Edison carbon telephones purchased by you, as already stated?

A. I used them for some time on my private telephone line between my house and the School of Mines, and since that time they have been in my possession continuously for use at my lectures.

Q. 10. State what has been their history since they came into your possession.

A. They hung for a year or two, one at the School of Mines and the other at my house, attached to my telephone line, and were used more or less. After a time I discontinued the use of a telephone line; in fact, somebody stole my wire. They continued to hang in their old positions for some time, and were then taken to the College of Physicians and Surgeons, placed in a closet, and brought out once a year to illustrate my lecture on telephones.

Q. 11. Doctor, will you produce the Edison carbon telephones referred to in your testimony, and are you willing that the notary should mark them for identification, so that they may be produced at the hearing?

A. I now produce them, and I am willing that the notary should mark them for identification and that they should be produced at any hearing where they may be wanted.

Q. 12. Are you willing to put the instruments in evidence?

A. I am, provided they be returned to me after the final decision in these proceedings.

(The instruments produced by the witness are offered in evidence and marked Chandler's Exhibits Nos. 7 and 8.)

Q. 13. Are these instruments numbered? If so, please identify the number of each on the record.

A. Exhibit No. 7, which is the instrument from which the mouth-piece has been lost out, is numbered 19 inside. Exhibit No. 8, which still retains its mouth-piece, is numbered 28 inside.

Q. 14. Excepting the loss of the mouth-piece, to which you referred in your last answer, state whether or not these instruments are now in the same condition that they were in when you first purchased them.

A. They are, as far as I know. I do not recollect opening them when they first came, and yet I think I must have done so. When I opened them the other day I found that the piece next the diaphragm above the carbon button in one of them was not attached to the diaphragm. As the surface of this piece is covered with glue or shellac, I have reason to believe that the piece must have been originally fastened to the diaphragm. This is the only change, except the loss of the mouth-piece, that has occurred to this instrument, Exhibit No. 7, since I first received it in 1878. Exhibit No. 8 is numbered 28 on the inside, and appears to be in perfect condition in every respect, as far as I can judge by inspecting the interior. As these instruments have never been out of my possession, and as no one has ever examined them except in my presence, I am sure that they are in exactly the same condition now as they were when I received them, with the exception of the two points already stated with regard to Exhibit No. 7.

Q. 15. How did they work when you first had them?

A. They worked to my entire satisfaction.

Q. 16. As president of the board of health of the city of New York in the summer of 1878, what did you have to do with the Edison carbon telephone?

A. In the summer of 1878 the board of health decided to put in a private telephone line to connect the office in Mott street with the houses of Dr. Janeway in 25th street, Colonel Prentiss, the counsel, in West 16th street, Dr. Day, the sanitary superintendent, in 34th street, my office in 50th street, and my house in 54th street. I instituted inquiries through some of the officers of the board of health, and as a result Mr. James C. Wood, representing the Gold and Stock Telegraph Company, called at my office at the board of health during my absence, leaving his card with a memorandum on the back asking me to make an appointment. I produce the card.

(The card is produced in evidence and marked Chandler's Exhibit No. 9.)

I subsequently had interviews with Mr. Wood with regard to the construction and equipment of the desired telephone line, and on or about July 9th, 1878, I received from Mr. James C. Wood a letter dated July the 9th, inclosing an agreement and contract for the construction

and equipment of the desired telephone lines. The letter I now produce.

(Offered in evidence and marked Chandler's Exhibit No. 10.)

The contract and the agreement are not in my possession. A few days later Mr. Wood called at my office in my absence, and one of my clerks made a memorandum with regard to the object of his visit, which I now produce.

(Offered in evidence and marked Chandler's Exhibit No. 11.)

The substance of this message was an intimation that the Gold and Stock Company desired to bind the board of health more firmly than by the contract and agreement which had been previously executed. In consequence of this request the following resolution was adopted by the board of health at the health department of the city of New York on the 16th day of July, 1878. I read it now from the City Record, the official journal of the city of New York—the issue of Friday, July the 19th, page 1095. It is as follows:

The president was authorized to make the necessary arrangements for the use of the telephone lines by this department at an expense not to exceed \$375 for the erection of the lines and \$200 per annum for the use of telephones.

The line was erected and equipped and continued in use as long as I remained in the board of health, that is, until the spring of 1884, and as far as I know it is still in use, although the instruments were taken away from my house and office in 50th street soon after the expiration of my term of service. I have two other letters in my possession relating to the telephone line: one is from George B. Scott, superintendent of the Gold and Stock Telegraph Company, and is dated August 16th, 1878, and refers to the sounder calls on the telephone line; the other is from H. R. Butler, assistant secretary of the Gold and Stock Telegraph Company, is dated October 4th, 1878, and relates to the Edison telephones in use on the line. I now produce the letters.

(The letters referred to by the witness are produced in evidence and marked Chandler's Exhibits 12 and 13.)

Q. 17. Will you please examine the instruments I now show you and state what they are, if you know?

A. One of these instruments is an application to the Gold and Stock Telegraph Company for the lease of five Edison telephones and sounders, signed by me as president of the health department. The other is a contract or agreement between the Gold and Stock Telegraph Company, represented by George Walker, vice-president, and C. F. Chandler, president of the health department, for the erection of the telephone line above referred to. Both these documents bear date July the 9th, 1878.

(Counsel for Drawbaugh objects to the answer in so far as it purports to state the contents or nature of the documents referred to, as secondary evidence, the documents themselves being in existence and the best

evidence. Objection is also made to any and all testimony relating to said documents unless the same are put in evidence in this cause.

Counsel for the Patent Office states that inasmuch as the aforesaid instruments are but temporarily in his possession, under an agreement to return the same to the proper custodian, the instruments are merely marked for identification, "Chandler's application and contract with the Gold and Stock Company," and the instruments are tendered to the opposing counsel for inspection.)

Q. 18. Do you recognize the signature at the foot of this contract?

A. I do; it is my signature. And I remember the documents themselves.

Q. 19. State whether or not you received from the Gold and Stock Telegraph Company a similar instrument signed by that company or its officers.

A. I did.

Q. 20. What has become of the part received by you?

A. That I cannot say. It was filed away at the health department at the time. I have caused search to be made for it and cannot find it. I think it very probable that when the bill for the service came in, the contract may have been sent to the comptroller to show that the amount of the bill corresponded to the contract. Otherwise I cannot account for its disappearance from the files of the health department.

Q. 21. Will you please look at these instruments again and explain more fully as to what each relates and what it is?

(Question objected to unless the documents are placed in evidence.)

A. One of these documents which is called an application is really a contract between the Gold and Stock Telegraph Company and the applicant, C. F. Chandler, president of the health department. According to its terms I made application for the health department to lease five Edison telephones and sounders, and agreed to pay for their use and maintenance the sum of \$200 under certain conditions which are printed on the application. The other document is a contract between the Gold and Stock Telegraph Company and the health department for the erection of an independent telephone wire from Mott street to 54th street, connecting the stations specified. These two documents are the copies which I myself signed and returned to the Gold and Stock Telegraph Company. The duplicates of these, which were retained at the health department, are the ones which I referred to when I stated that they could not be found.

(Answer objected to as incompetent, the instruments themselves being the best evidence of their contents.)

Q. 22. State when you signed this contract.

A. On the 9th day of July, 1878.

Q. 23. I notice that of the written portions of the contract the length of the term and your signature appear to be written with one kind of ink, while the other written portions are in another kind of ink. Can you explain this?

A. I can. The portion written in purple ink, such as I used in signing the contract for the use of the telephone, was written at the board of health, Mr. Wood stating in his letter that he had left the term blank and that I could make it for one or more years.

Q. 24. Have you any memoranda by which you can fix the date of the contract?

A. I will tell you how I know it was signed at that time. In the first place, Mr. Wood's letter (Exhibit No. 10, referring to these documents) is dated July 9th; both the documents are dated July 9th. I was present at the health department on July 9th, as a meeting was held on that day, which was Tuesday, the regular meeting day of the board of health. As further proof with regard to dates, it was subsequent to the signing of these documents that I received the request from Mr. Wood, shown in my Exhibit No. 11, that the board of health should pass a resolution confirming this contract, and this resolution was passed at the next subsequent meeting of the board of health held on July the 16th.

Q. 25. Who is this James C. Wood?

A. He is or was a representative of the Gold and Stock Telegraph Company, through whom I arranged for the construction of this telephone line. It is a long time since I have seen him, and I do not know where he now is.

Q. 26. You have stated, as appears from your testimony, that the board-of-health lines were built and equipped with Edison carbon telephones, as provided for in the contract. Will you give the date, if you can, at which the lines were finished and so equipped?

A. I have no means of determining the exact date at which this work was completed. The only document I have which throws any light on the subject is Mr. Scott's letter of August 16th, Exhibit No. 13, which is in reply to a complaint of mine, that the sounder calls were not loud enough, which, of course, had an earlier date.

Q. 27. State whether or not you had any interview with Mr. Wood as to building these lines for the board of health and equipping them with Edison carbon telephones before the date of Wood's letter of July 9th, 1878, Exhibit No. 10.

A. I did.

Q. 28. Have you any memoranda throwing light upon this subject? If so, will you please produce it?

A. I have no memoranda except the exhibits I have already produced, and which have been entered as exhibits in the case. My Exhibit No. 9 is Mr. James C. Wood's card with his printed address on one side. This memorandum on the back is a request to make an appointment with Mr. Wood to consider the proposed telephone lines, and is signed J. C. W., but is not dated. I had interviews with Mr. Wood subsequent to receiving this card and prior to July 9th, but have no means of fixing the dates of these interviews.

Q. 29. Where were the Edison carbon telephones referred to in the board-of-health contract used, and how did they compare with those you had previously purchased for the use of the college?

A. They were placed one at each of the following stations: First, office of the health department, 301 Mott street; second, residence of Dr. Janeway in East 25th street; third, residence of Dr. Day in East 34th street; fourth, my office at the School of Mines in East 50th street; fifth, my residence in East 54th street. This locates the five telephones specified in the contract; but we had a sixth station on our line at No. 9 West 16th street, the residence of Colonel Prentiss, counsel to the board of health, but I cannot remember whether that station was established at the beginning or was put in afterwards. It is not provided for in the contract, but may have been put in as an extra at that time. Subsequently one or two other stations were added. These Edison telephones gave us entire satisfaction. My impression is that they gave more satisfaction than the two I had on my own private line, for the reason that the telegraph company kept them in proper adjustment and working order.

Q. 30. Recurring to your answer to question 9, will you state how the instruments were connected and adapted for use upon the circuit?

A. On my private line I had quite a variety of instruments, not only the telephones, but also telegraphing-key and sounder and signal-bells, with the necessary batteries for the working of the line and the Edison carbon telephone, together with the induction-coil. There were the necessary switches, so that I could switch in the telegraphic apparatus for the Morse alphabet and sounder, or switch in the Edison transmitter and the receiver for telephonic purposes. When neither were in use the switches were set for the signals.

Direct examination closed.

Cross-examination:

X Q. 31. Were there any conditions connected with the purchase and sale of the instruments Nos. 7 and 8, as to the nature or purpose for which they were to be used?

A. The only condition is the one stated in Mr. Scott's letter of June the 9th, 1878, which is my Exhibit No. 1. He says: "We will sell the telephones you wish at the prices named below for the purpose of illustrating your lectures."

X Q. 32. What was the nature of the request referred to in Exhibit No. 1 as having been submitted to Vice-president Walker?

A. It was a request to be allowed to purchase a variety of telephones for my own use in connection with my lectures at the College of Physicians and Surgeons.

X Q. 33. When were the telephones, Exhibits Nos. 7 and 8, delivered to you?

A. They were sent to me on July the 27th, as appears from Mr. Scott's letter of that date, which is my Exhibit No. 5.

X Q. 34. Where have those exhibits been kept since they were first received by you?

A. During the first portion of the time after I received them one of them hung in my library in 54th street, the other in my office at the School of Mines in 50th street. When I discontinued using them and took them down from these positions, I carried them to the College of Physicians and Surgeons, where they have been kept until within the last month, when I brought them back to the School of Mines in connection with this investigation.

X Q. 35. I observe that the check, Exhibit No. 2, is dated July 5, 1878, whereas the receipt, Exhibit No. 6, is dated August 2, 1878. Will you please state wherein and how these two papers are connected?

A. It was June the 29th when I received from Mr. Scott the letter, Chandler's Exhibit No. 1, in which he says I may have the instruments for \$82, or the day afterwards. I sent him the check on July 5th to pay for the instruments, and his letter of July 6th acknowledges the receipt of it, but he could not send me all the telephones at once. He sent the last ones on July the 27th, and on August the 2d he sent me the official receipt for the amount.

X Q. 36. Does the item, "Two Edison carbon transmitters with induction-coils in box," found in Exhibits 1 and 6, have reference to the first carbon transmitters delivered on or after July 27th, 1878, and referred to in Exhibit No. 5?

A. It does.

X Q. 37. Are you positive that the letter, Exhibit No. 5, and the instrument referred to therein were delivered on the day the said letter is dated, to wit, July 27, 1878?

A. I cannot be positive as to the exact date. I do not remember whether the letter came before or after I received the instruments or whether it came with the instruments, nor whether the letter came by mail or messenger, nor whether the instruments came by express or messenger.

X Q. 38. Were the telephones contracted for by you as president of the health department placed in operation before or after you received the instruments Exhibits Nos. 7 and 8?

A. I really do not remember.

X Q. 39. Were the transmitters first used in the health department the hand instruments or bracket instruments?

A. They were bracket instruments.

X Q. 40. Have the instruments Exhibits 7 and 8 been at any time accessible to others than yourself since they were first purchased by you?

A. The one which hung in my library was accessible to any one in the house, and the one which hung in my office in the School of Mines was accessible to any one who entered the office.

X Q. 41. For what purposes were these instruments used in the year

1878, and when, if you remember, were they first placed in circuit upon a line and operated ?

A. The instruments were used as lecture illustrations in the fall of 1878, and in every succeeding year since that time. They were also set up as soon as practicable after I received them, in connection with the private wire running from my house to the School of Mines, by means of which I communicated with my secretary or my assistants. It is impossible for me to state exactly how soon after I received them I had them in actual use for this purpose.

X Q. 42. Between July 6th, 1878, the date of Exhibit No. 3, and August 2, 1878, the date of Exhibit No. 6, did you at any time make inquiry of George B. Scott, or others connected with the Gold and Stock Telegraph Co., concerning the reason for the delay in delivering the Edison transmitters? If so, please state the substance of any such conversation.

A. I have no recollection of making any such inquiry of this nature. (De bene.)

X Q. 43. Referring to the two documents signed by you and having relation to the introduction of telephones into the health department, please state whether or not at the time said documents were executed the instruments referred to therein were delivered or in operation.

A. At this date the instruments had not been delivered and were not in use.

Cross-examination closed.

Redirect examination :

R D. Q. 44. In respect to the delivery to you of Exhibits 7 and 8, on or about July 27, 1878, concerning which you have been questioned on cross-examination, state whether or not the delivery to you on that date was made in pursuance of the contract of purchase and sale previously entered into with the Gold and Stock Company, for the payment of which you gave your check dated July 5th, 1878, Exhibit No. 2.

A. The delivery was made to me in pursuance of a contract of purchase and sale previously entered into with the Gold and Stock Company, which contract was completed by the payment of my check dated July the 5th, 1878.

(Answer objected to as incompetent, the witness seeking to state a conclusion of law rather than a fact.)

R D. Q. 45. That is to say, as I understand you, that you actually bargained for the carbon telephones in the month of June, as you have stated, and that in pursuance thereof the instruments were subsequently delivered to you in July ?

(Question objected to as not proper redirect, as leading and incompetent.)

A. Yes ; I bargained for the instruments in June, closed the bargain on July 5th, by drawing my check for the amount agreed upon and sending it to the party of the first part, namely, Mr. Scott, representing

the Gold and Stock Telegraph Co., and in pursuance of this bargain the instruments were subsequently delivered to me in the latter part of July. The instruments were not all delivered at the same time the Phelps hand telephones were first delivered, then came the Gray hand telephones, and finally I received the Edison carbon transmitters with the induction-coils. The telephones were delivered, therefore, at three different dates.

Redirect examination closed.

Recross-examination:

R X Q. 46. You have stated in substance that you regarded the contract of June 29, 1878, completed upon the payment by check dated July 5, 1878. Will you please state whether at that time the particular instruments which you were to receive had been selected or even constructed?

A. I do not know.

CHARLES F. CHANDLER.

It is stipulated and agreed by and between counsel that each party may retain possession of the testimony and exhibits until all the testimony has been taken and the case is ready for trial.

Adjourned until Monday, February 3d, 1890.

LABORATORY OF THOMAS A. EDISON,

Orange, N. J., Feb. 3, 1890, 10 a. m.

Met pursuant to agreement. Present, counsel as before.

EXAMINATION OF THOMAS A. EDISON.

THOMAS A. EDISON, a witness on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit:

Q. 1. Please state your name, age, residence, and occupation.

A. Thomas A. Edison; age, 43; occupation, inventor; residence, Orange, N. J.

Q. 2. Have you ever made any inventions in electric speaking telephones? and if so, state generally the character of instrument made by you.

A. Yes; I invented the instrument known as the carbon telephone, which consists of a diaphragm agitated by the voice impinging on a block of carbon interpolated in an electric circuit.

Q. 3. Will you look at the instrument now shown you and state what it is?

A. It is one of my carbon telephones.

Q. 4. At how early a date can you say positively that this instrument was made?

A. Before April 20th, 1878.

(The instrument shown the witness is offered in evidence as Edison's Exhibit No. 1.)

Q. 5. I now show you an instrument produced by Mr. Henry Bentley in the speaking-telephone interferences and marked "Bentley's Exhibit No. 3, G. T. P., Notary." State if you know when that instrument was made and where.

A. I think I made that instrument myself, except the key on the side, which has been put on by some one unknown to me.

Q. 6. State whether or not this was the form of telephone adopted for public use. If not, how did it differ from those which subsequently went into general public use?

A. The instrument shown in Edison's Exhibit No. 1 is the instrument which went into public use. The exhibit called Bentley's Exhibit is the same thing slightly differing in design.

Q. 7. Describe, by reference to different parts, the construction and operation of a telephone of the character embodied in Bentley Exhibit No. 3, referring, if you desire, by way of explanation, to the tracing now shown you.

A. C is the diaphragm; E, the carbon button; D, a cup in which the carbon button is placed; A, the frame of the instrument; B, the rubber mouth-piece. The two wires leading from the instrument are connected, one with the base of the instrument and forms one pole in contact with a rubber button at the bottom. The other wire is connected to a metallic disk on the top of the carbon button. The whole is adjusted so that the round knob on the top of this disk is in contact with the diaphragm. On speaking, the sound-waves serve to increase or diminish the pressure of the disk connected to the wire upon the carbon button, and this increase and diminution of pressure at each vibration increases and diminishes the resistance of the carbon button to the electric current in proportion to the strength of the sound-waves.

(The tracing shown the witness is offered in evidence as Edison's Exhibit No. 2.)

Bentley Exhibit No. 3, referred to by the witness, is offered in evidence and marked Edison Exhibit No. 3.)

Q. 8. Is there any essential difference between the carbon telephones made by you in 1878, or rather the spring of that year, and samples of which are shown in your Exhibits Nos. 1 and 3, and instruments of the same character which subsequently went into general and extensive public use?

A. There is no difference in principle, the only difference being in the shape and some minor mechanical details of the adjustment.

Q. 9. Can you state about how many carbon telephones like Exhibits Nos. 1 and 3 you yourself made?

A. I had constructed at the laboratory at Menlo Park at least 12 of these instruments.

Q. 10. Can you state what became of these instruments referred to in your last answer?

A. Some were sent to England, some were sent to the Western Union Telegraph Co., some were sent to the Western Electric Manufacturing Co. at Chicago, some to Henry Bentley in Philadelphia.

Q. 11. Did you employ any outside parties to manufacture telephones for you in the spring of 1878?

A. Yes, Partrick & Carter of Philadelphia.

Q. 12. Have you any correspondence with Partrick & Carter on this subject, and can you produce it?

A. Yes, I herewith produce letters connected with the orders for manufacture.

One letter, dated May 18th, to Partrick & Carter, is as follows:

PARTRICK & CARTER:

Just as soon as I can get gauges made I am going to give you an order for telephones. Will telegraph you when Partrick should come here.

Yours in haste,

T. A. EDISON.

(Letter produced by witness is offered in evidence as Edison's Exhibit No. 4.)

The following is a telegram:

MENLO PARK, N. J., *June 10, 1878.*

JAMES PARTRICK,
38 South 4th street.

Telephone model ready; come over in the morning.

EDISON.

(Telegram referred to by the witness is offered in evidence as Edison's Exhibit No. 5.)

I herewith produce specifications on two sheets, dated July 12th, 1878, which accompanied the order and instrument, and signed Charles Batchelor, for Thomas A. Edison.

(The letter last produced by the witness is offered in evidence as Edison's Exhibit No. 6.)

I produce another letter to Messrs. Partrick & Carter, dated June 14, 1878, signed T. A. Edison; it is as follows: "Your favor of the 13th duly received. I cannot pay over \$20. If this is not satisfactory, please return sample."

(Letter produced by witness is offered in evidence as Edison's Exhibit No. 7.)

I here produce another letter to Partrick & Carter, dated June 20th, 1878, as follows:

Please name date when we may expect the 25 telephones. The Gold and Stock Company are getting hungry for them, and should they be completed soon the result may be a heavy order for you.

Very truly,

THOMAS A. EDISON.

(Letter offered in evidence as Edison's Exhibit No. 8.)

I here produce a letter from Partrick & Carter to myself dated Philadelphia, June 15, 1878, as follows :

We will manufacture the 25 telephones at the price stated in your letter of the 14th inst., viz., \$20 each.

(Letter produced by the witness offered in evidence, Edison's Exhibit No. 9.)

I produce another letter to myself from Partrick & Carter, dated Philadelphia, June 13, 1878, in which they state, "After giving your sample telephone specifications, etc., a thorough examination, we find that with the additions suggested by you they will cost you \$22 each. Should this estimate be out of proportion to your ideas of cost, please notify us and we will return sample, etc. In case we are in error detrimental to ourselves we rely upon you to give us the benefit of your friendship, as you well know it is almost impossible to accurately estimate on work of that description."

(Letter produced by witness offered in evidence and marked Edison's Exhibit No. 10.)

I here produce another letter to myself from Partrick & Carter, dated Philadelphia, June 21, 1878, as follows :

Yours 20th to hand. We will try our best to get the telephones out by the first week in July, or sooner, if possible. Can you give us any information in regard to the flexible tube ? We are having trouble in getting it. Do you know who keeps it in stock ?

(Letter produced by witness offered in evidence as Edison's Exhibit No. 11.)

I hereby produce a bill of Partrick & Carter's to myself, dated Philadelphia, July 19, 1878, for 25 telephones. The bill is receipted.

(Receipt offered in evidence as Edison's Exhibit No. 12.)

Q. 13. Will you please state when the several letters you have produced from Partrick & Carter were received by you and when other letters from you to Partrick & Carter were written ?

A. They were all sent and received in the course of business within one or two days from the date on them, except in the Exhibit No. 6 the date, instead of being July 12, 1878, should be June 12, 1878, a mistake of Mr. Batchelor.

Q. 14. How do you fix the correct date of the letter or specifications to Partrick & Carter, Exhibit No. 6, which you say was written a month earlier ?

A. I fix it by the other letters, by my recollection, and by the fact that the instruments were made July 19th, 1878, and it would have been a physical impossibility to have made the instruments between July 12th and July 19th. I also correct the date by the fact that the specification is copied in my letter-book, the letter on the page before it is dated June 12th, and the letter afterwards on the next page after it dated June 13th.

Q. 15. State your recollections as to the matters and things set forth in the letters you have produced, Exhibits 4 to 12, inclusive, as to whether

or not the matters referred to therein actually occurred on or about the dates of the several exhibits.

A. I remember that they did.

Q. 16. Is Exhibit No. 4 in your handwriting and signed by you?

A. Yes.

Q. 17. Said exhibit refers to a proposed order for telephones to be given by you to Partrick & Carter, and your Exhibit No. 5, telegram, appears to be a request to Mr. James Partrick to come over for the model. Did he come in response to the telegram, and did you deliver to him a model from which to make the telephone?

A. I cannot remember that he came over. My impression is that Mr. Batchelor went over to see him instead, taking the model with him.

Q. 18. Can you explain what is meant by the note in purple ink at the bottom of Partrick & Carter's letter to you dated June 15th, 1878, Exhibit No. 9?

A. It is in the handwriting of Mr. Batchelor, probably an order from me to order 50 instead of 25. I find in my letter-book, page 277, a letter to Partrick & Carter increasing the order from 25 to 50, but on page 279 I find another letter to Partrick & Carter which does not increase the order; the letter on page 277 increases the order to 50, but was probably not sent.

Q. 19. Did you receive from Partrick & Carter the 25 telephones referred to in the receipt you have produced marked Exhibit No. 12, and, if so, about when did you receive them and what disposition was made of them?

A. They were received certainly by the 20th of July, 1878. Some were sent to the Western Union Telegraph Company and others were shipped to England.

Q. 20. Have you any of those instruments now in your possession?

A. I have not looked for them. Mr. Batchelor, my assistant, has searched for a model of the Partrick & Carter instrument complete, but has been unable to find one.

Q. 21. Can you identify the instrument received by you from Partrick & Carter as of the same character or make as any of the exhibits?

A. The transmitting instrument, Exhibit No. 3, is practically the same as those furnished by Partrick & Carter, except the key on the side of the instrument was not on their apparatus.

Q. 22. Did you offer any of the Partrick & Carter instruments for sale, and, if so, can you produce any correspondence bearing on this subject?

A. Yes; I offered to sell them to George Walker of the Gold and Stock Telegraph Company. The offer was made in a letter dated June 12, 1878, and is as follows:

I have given Partrick & Carter of Philadelphia an order for 25 telephones for my own use. If they prove satisfactory and you wish to have them, I will turn them over to you. Mr. Batchelor goes to New York to-day with one hundred carbon disks for Mr. Phelps.

EDISON.

The letter is on page 266 of my letter-book.

Q. 23. Have you Mr. Walker's reply to the letter you have just read?

A. I have, and now produce it.

(Letter produced by the witness marked Edison's Exhibit No. 13.)

Q. 24. Who is Mr. George Walker?

A. Vice-president of the Gold and Stock Telegraph Company of New York at that time.

Q. 25. Where is he now, if you know?

A. I don't know; he left there some years ago.

Q. 26. Referring to your letter to Mr. Walker, on page 266 of your letter-book, please explain what is meant by the expression "I will turn them over to you." Was it to be a loan of the instruments or a gift, or did you propose to sell them?

A. I proposed to sell them.

Q. 27. Did you receive a telegram from Mr. Walker about the date of your reply to him of June 14th in answer to said reply?

A. I don't remember it, but I don't know.

Q. 28. Have you a letter addressed to George Walker under date of June 17th, 1878, in reply to a communication from him on a previous date, and, if so, will you produce it?

A. I don't know.

Q. 29. Referring to the instrument Exhibit No. 1, which you say was made prior to April 20th, 1878, have you any correspondence relating to offers made by you to sell such instruments, and, if so, will you produce it?

A. I received a letter from George Walker, v. p. of the Gold and Stock Telegraph Co., dated New York, May 21, 1878, in which he orders me to send a model set of telephone apparatus to the Western Electric Mfg. Co. of Chicago. I now produce the letter.

(Letter offered in evidence as Edison's Exhibit No. 14.)

About the 1st of June, or within a few days from that time, I gave their agent, Mr. Bliss, two telephones to take to Chicago with him for the Western Electric Mfg. Co. On June 11th, 1878, I received a letter from the Western Electric Mfg. Co., signed E. M. Barton, secretary, relating to the instruments delivered to Mr. Bliss. The letter I now produce.

(Letter produced and marked Edison's Exhibit No. 15.)

I produce another letter, dated Chicago, June 18, 1878, to myself, signed E. M. Barton, secretary, relating to the telephones furnished them.

(Letter referred to by the witness offered in evidence as Edison's Exhibit No. 16.)

Q. 30. I notice in the letter from Mr. Barton, Exhibit No. 16, a statement to the effect that he would send you a couple of telephones with induction-coils. Did Mr. Barton send you any telephones, and, if so, did you test them?

A. Yes; we received one, and perhaps more. We made a test of the same, and I find a memorandum of the test made by them. The test was to determine the mechanical perfection of the same. I herewith produce the paper recording the test.

(Memorandum put in evidence and marked Edison's Exhibit 17.)

Q. 31. What did you do with the instruments received from Mr. Barton?

A. I don't remember what we did with them.

Q. 32. Will you look at the Journal of the Franklin Institute, issued April 1st, 1878, and state what the cut at page 269 represents?

A. It represents practically Exhibit No. 1 shortened up—that is, without the handle.

Q. 33. State whether or not the description of the cut given on said page is a correct description of the Edison carbon telephone as it existed at any time prior to the date of said issue of the said journal.

(Question objected to as calling for secondary evidence, the instrument, if any such was made, being the best evidence as to its construction.)

A. I don't know when the publication was issued, but I presume somewhere around April 10. The description on pages 268 and 269 is correct.

Q. 34. Have you any of the original instruments illustrated in that sketch in your possession, and can you produce one?

A. I do not think I have, although I might possibly find them. It would be a great trouble to do so. The instrument shown in Figure 1, page 269, is practically the same as Exhibit No. 1, the only difference being that the adjustment is extended out so as to form a handle. If this was simply cut off at the line where the binding-posts are and the short adjustment made it would be the same practically as Exhibit No. 1. It is a design intended to be held in the hand, while Exhibit No. 1 is a design to be supported in a box, and therefore the handle is unnecessary.

Q. 35. At pages 342 and 343 of Mr. Plush's deposition in the speaking-telephone interferences, in the testimony taken on your behalf, he speaks of an exhibition of the instrument represented in that cut. Did you know of that exhibition? If so, what did you know of it, and what did you know of any other exhibition that may have taken place of the same instrument? Were there any other exhibitions to your knowledge?

A. I know about April 1st, 1878, or thereabouts, a number of tests were made between New York, Philadelphia, and Menlo Park and Philadelphia, and that I was told over the telephone that there were a great number of people came to see the tests, among whom were newspaper men, and some articles were published about that time in the local Philadelphia papers. I think there were two or three exhibitions given by Mr. Batchelor, but I was always at this end. Mr. Batchelor could doubtlessly testify as to the exhibitions.

Q. 36. Was your carbon telephone, as exhibited in Exhibits Nos. 1 and 3, or in substantially that form of device, illustrated or described in any printed publication in 1878, and, if so, can you give the name of the publication and the date, as nearly as you can?

A. In the Journal of the Telegraph, page 114, April 16, 1878, is shown substantially the same thing, one of the details being slightly different, the connection between the diaphragm and the carbon button being made by a piece of rubber tubing instead of a solid tube, as in Exhibit 1. In the Scribner's Magazine of 1878, page 601, is shown one of the carbon telephones substantially as Exhibit No. 1, excepting as to details, the instrument illustrated being designed by George M. Phelps, of the Western Union Telegraph Company, from my Exhibit No. 1. In Prescott's book on the Speaking Telephone and Electric Light, 1879, page 567, is also shown an instrument substantially as Exhibit 1.

Q. 37. Look at the two telephones now shown you which have been put in evidence by Professor Chandler and marked Chandler's Exhibits Nos. 7 and 8, and state whether you recognize them, or either of them, and, if so, state what they are, where they were made, and when.

A. I recognize the instrument Exhibit No. 7 as one of the original lot made about April 20th, 1878. Exhibit No. 8 was made later; I think within 30 days of April 20; it might have been as much as a month and a half. They were made at Menlo Park, New Jersey.

Q. 38. Chandler's Exhibit No. 7 is numbered 19 on the inside of the rim. How many instruments like this exhibit did you make at Menlo Park?

A. This instrument is the same as Exhibit No. 1. My impression is that we made only a dozen; but since the Exhibit No. 7 shows No. 19 it is probable that we made more than a dozen.

Q. 39. What became of the instruments referred to in your last answer?

A. I have already stated that in answer to Q. 10.

Q. 40. Have you any correspondence or memoranda throwing light upon the time when the instruments like Chandler's Exhibit No. 7 were made?

A. Nothing but what I have testified to and put in as exhibits.

Q. 41. Do you remember having sent any instruments like this Exhibit Chandler No. 7 to the Gold and Stock Telegraph Company?

A. Yes, I delivered one to Mr. George M. Phelps, of the Western Union Telegraph Company, and one to Mr. Wiley, at that time of the Gold and Stock Telegraph Company.

Q. 42. State whether or not there was any understanding that you should be paid for the instruments furnished by you to the Gold and Stock Telegraph Company.

A. Of course there was an understanding. I did not make instruments for nothing for the corporation. All the instruments that I delivered to the Gold and Stock Company the Western Union had paid for for them.

Q. 43. Please look at your letter-book, page 266, with reference to the letter to George Walker, to which you have heretofore referred in your testimony, and state whether or not at about this time you made any proposal to sell Edison carbon telephones.

A. Certainly; this is a proposition to sell them 25 telephones. I had ordered them for my own use in England, but as the Gold and Stock Telegraph Co. were very anxious for telephones to supply their customers I made them an offer to take these off my hands; I believe at the same price that I paid for them.

Q. 44. Have you any further correspondence on the subject of proposed sales by you or offers to sell carbon telephones?

A. I have a letter dated July 4th, 1878, to Mr. E. W. Kellogg, esq., of Hartford, Ct., signed by myself. It is found on pages 312, 313, and 314 of my letter-book. Another letter dated July 8th, 1878, page 317 of my letter-book, to Theodore Puskas, Paris, signed by myself.

(The notary is requested to make copies of these letters and verify the same and mark them Edison's Exhibits Nos. 18 and 19.)

Q. 45. Can you state when these letters were written?

A. They were written on the date they were copied in the book in the regular course of business and on the dates named.

Adjourned until Tuesday, Feb. 4th, 1890, 10.30 o'clock.

ORANGE, N. J., *February 5, 1.45 p. m.*

TESTIMONY OF T. A. EDISON—Resumed.

Q. 46. Please look at the Exhibit Batchelor No. 1 and state if you know what it is.

A. It is one of my carbon telephones made by the Western Electric Manufacturing Co.

Q. 47. You have stated in answer to Q. 30 that Mr. Barton sent you one or more telephones, as referred to in his letter of June 18th, Exhibit No. 16. State when you received said letter and the telephone or telephones referred to therein.

A. The letter marked Exhibit No. 16 was received in the regular course of business within two or three days after it was written, and I remember the telephones followed or were received within a few days of the date of the letter. I recognize the instrument, as it is nickel-plated, and as being the same instrument or one fac-simile of that received. I refer to Batchelor's Exhibit No. 1.

Q. 48. Referring to your answer to Q. 5, you omitted to give the date when the instrument Exhibit 3 was made. Will you please fix the date?

A. They were made at Menlo Park sometime in May, 1878.

Q. 49. Please look at your letter to Walker, on page 266 of your

letter-book, as referred to in your answer to Q. 22, and state your recollection as to when the original letter was written and sent, and about when you received Walker's reply thereto, marked Exhibit 13.

A. I have no doubt that the letter in my press-copy book, page 266, to Mr. Walker, was written on the day it was dated, June 12, 1878, and I have no doubt that I received the letter Exhibit No. 13, signed by Walker, June 15th, or one day later than it is dated.

Q. 50. In Exhibit 13, reference is made to 6 telephones which Mr. Walker states in said letter he has been daily expecting to receive. Have you in your letter-book any reply to said letter, and, if so, will you produce it?

A. I have not been able to find it.

Q. 51. Do you remember having written a letter in reply to Walker's letter, Exhibit 13?

A. I think I made a reply, but I cannot remember what it was.

Q. 52. Do you remember having written a letter to Mr. Walker in which you stated in substance as follows:

Yours of the 14th was duly received. I will send you 15 of the first telephones received from Partrick & Carter. I have 6 here ready for you which were made here. Am waiting for the japanners to send casting. Will endeavor to send these to you Tuesday next.

(Question objected to as grossly irregular, leading, a statement without foundation in fact or on the record.

And counsel for the Office is requested to state from what he read the letter, whether it is an original copy of any existing document to his knowledge.

Counsel states that he is simply endeavoring to revive the memory of the witness as to whether or not such a letter was written and the original of which he has good reason to believe will hereafter be produced.)

A. I am quite sure we answered the letter of Mr. Walker within a day or two after it was received, because I find on his letter, Exhibit No. 13, a memorandum note to my secretary as follows: "Will let you have first 15." This is my own handwriting and was a direction to my secretary what to say to Mr. Walker in reply.

Q. 53. By whom and when were the letters in evidence as Exhibits 7 and 8 written, and state your recollection as to whether they were sent to the parties addressed, and about when they were so sent?

A. They were written by my secretary, S. L. Griffin, and I have no reason to doubt but that they were written on the day they are dated and sent on the day they were written, in the regular course of business, to the parties to whom they are addressed.

Q. 54. Where is Mr. Griffin, if you know?

A. I have not seen him for several years; the last time I heard of him was at Denver, Colorado.

Q. 55. Please look at page 279 of your letter-book and state where the

original of that letter is, if you know, by whom it was written, and when.

A. I suppose Partrick & Carter have the original. The letter I have no doubt was written on June 17, 1878, the day it is dated, and mailed the same day, in the regular course of business. It was written by my secretary, S. L. Griffin.

Q. 56. Will you allow the notary to copy and verify the letter as a part of the record?

A. Yes.

The letter referred to is as follows:

JUNE 17, '8.

MESSRS. PARTRICK & CARTER,
Philadelphia:

GENTLEMEN: I am in receipt of your favor of the 15th. Please do your best on the 25 telephones. Get them up in good shape and good appearance. I shall probably order as many more when these are completed.

Very truly,

T. A. EDISON.
G.

Q. 57. Please look at page 294 of your letter-book and state where the original of that letter is, if you know, by whom it was written, and when.

A. I presume Mr. Barton has it. It was written by my secretary, S. L. Griffin, at Menlo Park, N. J., and I have no reason to believe but what it was written on June 21st, 1878, when it is dated, and mailed the same day in the regular course of business.

Q. 58. Will you allow the notary to copy and verify the same as a part of the record?

A. Yes.

The letter referred to is as follows:

JUNE 21, '8.

E. M. BARTON, Esq.,
Chicago:

DEAR SIR: Messrs. Partrick & Carter of Philadelphia are making 25 telephones complete for me. Will send you one of the very first received from them. They will be "bang-up," and I think Mr. Walker will order a hundred more.

Very truly,

T. A. EDISON.
G.

Q. 59. Please look at page 280 of your letter-book and state by whom the original of that letter was written, when, and your recollection whether it was sent, and to what it relates.

A. The letter was written by my secretary, Mr. Griffin, at Menlo Park. I have no reason to doubt that it was written on the date given in the letter and was mailed in the ordinary course of business. It refers to selling my telephone rights in the West Indies and about furnishing instruments.

The letter referred to is as follows :

JUNE 18, '8.

JAS. REDPATH, Esq.,

New York :

DEAR SIR: Referring to your letter of the 17th in regard to the phonograph and telephone agency for the West Indies, Mr. Edison says to refer Mr. Palmieri to Mr. E. H. Johnson in so far as the musical telephone is concerned. The speaking telephone Mr. Edison says he will furnish Mr. P. at as low a price as possible. Pls. ascertain from Mr. Palmieri about what time he expects to sail.

Very truly,

T. A. EDISON.
G.

Q. 60. Do you know Professor Chandler of Columbia College, and, if so, how long have you known him ?

A. Since 1878.

Q. 61. Did Professor Chandler make any application to you in respect to the purchase of telephones during said year ? and if so, state at how early a date the application was made.

A. I think that Professor Chandler asked me for a telephone in May or June, 1878, and I referred him to the Gold and Stock Telegraph Co. This is as near as I can recollect.

Q. 62. Exhibits 4, 6, 7, and 8 appear to be the original papers sent by you to Partrick & Carter. Can you explain, if this is so, how they came into your possession and when ?

A. Don't know how I got them. I suppose that I must have got them for some evidence in some previous interference relating to the telephone.

Q. 63. Exhibit No. 12 is marked across the face in red ink "Duplicate." Can you explain this ?

A. No ; I can't explain why it was marked "Duplicate" without the first bill was lost.

Q. 64. Do you know where the original is ?

A. No ; I do not.

Direct examination closed.

Cross-examination :

X Q. 65. When Professor Chandler sought to obtain instruments from you, as testified in answer to Q. 61, why did you refer him to the Gold and Stock Co. ?

A. Because I had no right to sell telephones in the United States to any one but the Gold and Stock Telegraph Company or the Western Union Telegraph Co.

X Q. 66. What were your contract relations with the Western Union and Gold and Stock Companies during the years 1877 and 1878 ?

A. I had contracts with the Western Union Telegraph Co.

X Q. 67. What were those contracts so far as they relate to the telephone ?

(Objected to as calling for secondary evidence, the contracts themselves being the best evidence as to their contents.)

A. I think I was bound to give them the telephone patents.

X Q. 68. Did you not assign to the Western Union Telegraph Co. early in the year 1878 all your rights for the United States in your telephone inventions and patents?

A. Yes; sometime in the summer of 1878.

X Q. 69. Were you working for yourself or for the Western Union Telegraph Company in the years 1877 and 1878 in the development of the telephone?

A. Yes; in experimenting for the Western Union and myself.

X Q. 70. Under your agreement with the Western Union when were your experiments to end?

A. Well, I have not the contract here to refresh my recollection. My impression is that the experiments were to be continued for a number of years.

X Q. 71. When did your experiments in that line cease? I refer to experiments carried on under your agreement with the Western Union.

A. The experiments have never ceased. The contract is still in force.

X Q. 72. Under your agreement with the Western Union who was to determine when a practical instrument for public use had been produced?

A. I believe it was Mr. Orton, who was then president of the Western Union Telegraph.

X Q. 73. When and how did Mr. Orton signify his acceptance of an instrument suitable for introduction to the public and what instrument was adopted by him?

A. He was satisfied at the time the Western Union agreed to pay me a hundred and two thousand dollars for the patterns or instrument I had produced.

X Q. 74. At the time that the Partrick & Carter instruments were sent to the Gold and Stock Co., what understanding did you have concerning the price to be paid for them, who was to pay for them, and to whom was the payment to be made?

A. I think they were to get them at the same price that I paid for them. The Gold and Stock Tel. Co. were to buy them. The money was paid me by the Gold and Stock Telegraph Co.

X Q. 75. When was the payment made for those instruments?

A. I used to get money every month from them or the Western Union, and they probably paid it within a month.

X Q. 76. Were your experiments on the telephone conducted at your own expense or at the expense of the Western Union Telegraph Co.?

A. Mostly at the expense of the Western Union Telegraph Co.

X Q. 77. And were the instruments made in the course of those experiments your private property or the property of the Western Union Company?

A. The instruments made where they were duplicates belonged to me. I had only to furnish one model to the Western Union. The duplicates belonged to me.

X Q. 78. Did the Gold and Stock Co. contribute in paying for experiments on the telephone as conducted by you?

A. I think I got some money through the Gold and Stock Telegraph Co. for experiments. I don't know what the arrangements of the Western Union with that company were.

X Q. 79. Were your relations such that the proper officers of the Gold and Stock Company could, if they saw fit, call for the production or direct what disposition should be made of any of the telephones made by you during your experiments in that line?

A. After the contract was signed I had no right to sell telephones in the United States except by their permission, but could sell them outside of the United States. As regards the time before the contract, I am not sure whether they had the right to dictate as to the disposal of any instruments I desired to sell, because my previous contract was for an acoustic telegraph and not a telephone.

X Q. 80. After the signing of that contract did you understand that you retained the right to manufacture and use telephones in this country without the permission of the Western Union or Gold and Stock Companies?

A. I am not sure of this, whether I was or not. I did so sell telephones, but I do not remember whether the contract gave me a right to do so or not.

X Q. 81. When was the first sale made by you of the carbon transmitter, and to whom?

A. The Gold and Stock Telegraph Co., I think, were the first parties to whom I sold; about the middle of June, 1878.

X Q. 82. To what instrument do you refer?

A. I refer to some instruments furnished to the Gold and Stock Telegraph Co. of the type of Edison's Exhibit No. 1. These were the first type which Mr. Orton was satisfied with. We had made others previous to that which were paid for by the Gold and Stock or Western Union Telegraph Co.

X Q. 83. Was not the work on those instruments performed and paid for by the Western Union or Gold and Stock?

A. Yes. I made them in my own factory and turned them over to the Western Union and they paid me for them.

X Q. 84. When were they paid for? Was it a separate account or a general account?

A. It was a general account; they used to pay my bills once a month.

X Q. 85. Will you please state of what the carbon buttons in the various exhibits to which you have referred are composed and how they are made?

A. The carbon buttons were made out of lamp-black collected from a smoking chimney and molded in a die to about the size of a nickel five cents by pressure.

X Q. 86. In your answer to Q. 42 you state that the instruments de-

livered to the Gold and Stock Co. were paid for to the Western Union Company. Please explain.

A. No; I meant to say that the instruments furnished to the Gold and Stock Company and the Western Union Company were paid for by them.

Cross-examination closed.

Redirect examination:

R D. Q. 87. Explain what work or instruments was paid for by the Gold and Stock and what by the Western Union, as referred to in your previous answer.

A. The Western Union Company paid for experiments and the Gold and Stock paid for any apparatus which they received.

R D. Q. 88. When was this arrangement made?

A. It is a matter of record in the interferences. I cannot remember the date of the contract.

Examination closed.

THOMAS A. EDISON.

Subscribed and sworn to before me this 6th day of February, 1890.

[SEAL.]

JOHN F. RANDOLPH,
Notary Public.

Adjourned subject to agreement.

LABORATORY OF THOMAS A. EDISON,
Orange, N. J., Feb. 4, 1890.

Met pursuant to adjournment. Present, counsel as before.

Mr. Edison not being present, it is consented that his examination be postponed and that another witness be put upon the stand.

EXAMINATION OF CHARLES BATCHELOR.

CHARLES BATCHELOR, a witness on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit:

Q. 1. What is your name, age, residence, and occupation?

A. Charles Batchelor; age, 44; residence, 33 West 25th street, New York City; occupation, assistant to Thomas A. Edison.

Q. 2. What was your occupation in 1878?

A. I was at that time assistant to Thomas A. Edison in his laboratory at Menlo Park, N. J.

Q. 3. Are you familiar with the instrument known as the Edison carbon telephone? and if so, state what it is and about when you first had knowledge of it.

A. I am familiar with the Edison carbon telephone and worked on its development up to the time it became a commercial success. It is

an instrument used as part of a public telephone and is used for the transmission of speech. The principle upon which it works is as follows : The sound-waves produced by talking vibrate a diaphragm which is in connection with a carbon button ; the vibrations of the diaphragm put a continuously varying pressure on the carbon button, through which a current of electricity is passing. This varying pressure varies the resistance of the circuit in which the carbon is placed, and these variable currents are transmitted by suitable devices, so that they can act on a receiving instrument specially designed for them at the other end of the line. The result at the receiving instrument is the reproduction of speech as given at the transmitting end.

Q. 4. At how early a date can you state of your own personal knowledge that instruments of the character you have stated were actually made and adapted to be used for commercial purposes ?

A. There were a great many instruments made that were commercial instruments—good for commercial use ; but the ones that were actually put in use with the public and which were the results of Mr. Edison's previous investigations, and also which were instruments leaving nothing to be desired, these instruments were put in the market about May or June, 1878.

Q. 5. Can you fix this date by reference to any memoranda or written correspondence in your possession ? If so, please do so.

A. I remember instruments that we made that were shown in Washington in the early part of 1878, and also remember a number of instruments, carbon transmitters, that we made at Menlo Park during May, 1878. I also remember that Mr. Edison gave to Partrick & Carter of Philadelphia an order for instruments which was based on instruments made previously by us at Menlo Park. I also remember that the Western Electric Company of Chicago made instruments for the Gold and Stock Telegraph Company of New York about June, 1878. I also remember that the Western Union Telegraph Company's shops at Church street, New York, of which Mr. Phelps was the manager, made instruments of this character from instructions from Mr. Edison for the Gold and Stock Telegraph Co. of New York. Many of these instruments were received by us and some of them sent to the Gold and Stock Telegraph Co. All of these instruments of which I have spoken had the Edison carbon telephone connected with them. There is correspondence in regard to this. I have in my hand a letter from Thomas A. Edison, marked Edison's Exhibit 4, from Thomas A. Edison to Partrick & Carter, dated May the 18th. I recognize that as Thomas A. Edison's handwriting, and recognize it also as relating to an order for telephones which Mr. Edison was going to give to them in 1878. I have in my hand a letter from Partrick & Carter to Thomas A. Edison of June 15, 1878. This letter I recognize as one from the files of the Edison laboratory, in which Partrick & Carter agree to make the instruments at a certain price ; this paper is marked Edison's Exhibit No. 9. I have in my hand a letter

marked Edison's Exhibit No. 7, written by Stockton L. Griffin, secretary to Mr. Edison, to Messrs. Partrick & Carter, Philadelphia, June 14, 1878, in which Edison offers to pay a certain price for the telephones. The previous letter is an acceptance of that price. Edison's Exhibit No. 6 is a letter written by me for Mr. Edison, June 12, 1878, to Messrs. Partrick & Carter. This is a letter of instructions that they must attend to in making the telephones ordered. The letter last mentioned has been mistaken for July 12, 1878, but it was written by me on June the 12th. The reason that I know this is so is, that the copy of the letter as copied in Mr. Edison's letter-book shows that the letters immediately preceding it were June the 12th, June the 11th, June the 11th, and June the 10th, whilst those immediately following it are June the 13th, June the 13th, June the 13th, and June the 14th. Edison's Exhibit No. 8 is a letter written by Griffin for Mr. Edison to Messrs. Partrick & Carter, Philadelphia, June 20, 1878, asking them to hurry the telephones ordered. Edison's Exhibit No. 5 is the original of a telegram sent by Edison to Partrick June 10, 1878. This is from the files of Mr. Edison; it tells him that the models for him are ready. Edison's Exhibit No. 11 is a letter from Partrick & Carter to Thomas A. Edison, dated June 21, 1878, in which they agree to do their best to deliver the telephones the first week of July, or sooner, if possible. This letter is from Edison's files. Edison's Exhibit No. 12 is a bill from Partrick & Carter to Edison, dated July the 19th, 1878, and receipted for payment for 25 telephones. This bill is marked in red ink "Duplicate." This bill is from Edison's files. Edison's Exhibit No. 13 is a letter from George Walker, vice-president of the Gold and Stock Telegraph Co., to Thomas A. Edison, dated June the 14th, 1878. I recognize this as from Edison's files, and also recognize the signature of George Walker. In it he expresses a willingness to take the 25 telephones that Partrick & Carter were making, and also notes that Mr. Phelps had received the 100 carbon buttons; the latter sentence related to carbon buttons that Mr. Edison was to furnish to Mr. Phelps, who was also at that time making carbon transmitters and telephones generally for the Gold and Stock Telegraph Co. The 100 carbon buttons here referred to I remember to have myself taken over about this time and delivered them to Mr. Phelps. Edison's Exhibit No. 14 is a letter from George Walker to Thomas A. Edison, dated May 21, 1878, asking him to send a set of telephone apparatus and two transmitters, one to keep intact, to the W. E. Mfg. Co. of Chicago; also another transmitter to use as a model to manufacture from. I remember in regard to this that these instruments were sent from the Menlo Park laboratory to the Western Electric Manufacturing Co. of Chicago by Mr. Edison. Edison's Exhibit No. 15 is a letter from Enos M. Barton, secretary at that time of the Western Electric Mfg. Co., which is dated June 11, 1878, in which he speaks in admiration of the models sent them, and also says that they would have a half a dozen instruments ready by Saturday of this week; that meant

within a few days of June 11th. This letter is from Edison's files. Edison's Exhibit 16 is from Barton to Thomas A. Edison, dated June 18, 1878, in which he speaks of sending telephones to Edison in order that he should see them and approve of them. I remember in regard to this last letter that two of these telephones were received by Mr. Edison, that we put into them carbon buttons and gave them a thorough trial, and that Mr. Edison decided that they were all right.

Besides the letters aforesaid I know that the telephones of Partrick & Carter, of the Western Electric, and of Phelps were made about this time, as it was about a couple of months before Mr. Edison went out west on the Eclipse expedition. The date of his leaving, I should judge, was about the middle of July, 1878. There are also newspaper notices and drawings of these telephones that were published about that time that gave descriptions of these telephones. Notably I remember an article in the Journal of the Telegraph, Scribner's Magazine. I also fix it in my mind by the fact that it occurred after our visit to Washington with Mr. Edison about April, 1878, where we there showed the Edison carbon telephone and the phonograph at the Smithsonian Institute and other places. This was about the latter end of April, 1878.

Q. 6. Were you personally familiar at the time stated with the correspondence and exhibits to which you have referred, and, if so, what is your recollection as to the matters and things therein recited and the dates at which the several letters were written?

A. At the time mentioned, that is, at the time that these letters were sent and received, I was personally conversant with the subject, and generally saw the letters that came to Mr. Edison and often answered them. They are letters that were received in the ordinary course of business, and I remember the circumstance of their contents perfectly, and I know them to have been received and written about that time.

Q. 7. Please look at the instrument I now show you, which is in evidence as Edison's Exhibit No. 3, and state if you know what it is, when it was made, and where.

A. I recognize the instrument as one made at Edison's laboratory previous to our having furnished models to other people to manufacture. I notice an attachment in the form of a small key or circuit-breaker on this instrument, which I am quite sure it did not have when it left the laboratory. This has evidently been put on by somebody else.

Q. 8. Look at the instrument now shown you, which is in evidence as Edison's Exhibit No. 1, and state if you know what it is, where it was made, and when.

A. I recognize the instrument as having been made at the Edison laboratory, Menlo Park, N. J., previous to our having given models to other people to manufacture, and also recognize it as one that was finished up earlier than the ones that were japanned. Some of these were sent away by Mr. Edison without japanning. I should like to say with regard to these last two transmitters, carbon telephones, that they

are two of a lot of 25 or 30 that were made by Mr. Edison at his laboratory in Menlo Park, and from which lot, I believe, the models that Partrick & Carter got were sent, and also the models that were sent to the Western Electric Company of Chicago.

Q. 9. I now show you two telephones that were put in evidence by Professor Chandler of Columbia College, and marked Chandler's Exhibits Nos. 7 and 8. Please state if you recognize them, or either of them, and give the date when and place where they were made.

A. I recognize them as two carbon telephones that were made at the Edison laboratory previous to our having given models, and also recognize that Chandler's Exhibit No. 7 and Edison's Exhibit No. 1 were made in the same lot that were sent out without being japanned.

Q. 10. Look at the exhibit now shown you and state if you know what it is.

A. I recognize the exhibit as an Edison carbon telephone, and also recognize it as one of the carbon telephones that were made by the Western Electric Co. of Chicago after the models that were sent to them by Edison. I recognize it as one made by them, as I know that about that time they had an order from the Gold and Stock Telegraph Co. of New York to make a lot of telephones. The first of these that they made had carbon telephones attached that were nickel-plated and began their numbers at 5,000 or 5,001. I recognize it as one of theirs from the fact that the first ones that they made were nickel-plated instead of being japanned or lacquered, as we had made them.

Q. 11. Will you state when instruments like the exhibit were first made to your knowledge?

A. I know that in the early part of June instruments like these were made by them, sent to Mr. Edison for his approval, and afterwards delivered by him to the Gold and Stock Telegraph Co., New York, as equally good carbon telephones as any that he had made himself.

(The instrument referred to by the witness is offered in evidence as Batchelor's Exhibit No. 1.)

Q. 12. Look at the instrument now shown you, and state if you recognize it and when to your knowledge similar instruments were made.

A. I recognize the exhibit as a carbon telephone exactly similar to the carbon telephones that George M. Phelps was making for the Gold and Stock Telegraph Co. at the time that I took over the 100 carbon buttons from Mr. Edison to him, just previous to June the 14th, 1878. This carbon telephone was part of a well-known style that was got up by Mr. Phelps called the desk pattern, and which is illustrated in one or two of the articles in the journals a little later on.

(The instrument referred to by the witness was introduced in the speaking-telephone interferences and marked Edison's Exhibit Carbon Telephone, S. L. G.," and is offered in evidence as Batchelor's Exhibit No. 2.)

Q. 13. Recurring to the Partrick & Carter instruments to which you

have referred, state when that lot of instruments were completed and received by Mr. Edison.

A. I cannot give the exact date that those instruments were received by us, and only remember that we had them previous to Mr. Edison going out on the Eclipse expedition, which date I put about July the 20th, 1878. I also am sure that the telephones in question were received before Partrick & Carter sent their bill for the same, which is in evidence as Edison's Exhibit No. 12, and is dated July 19, 1878.

Q. 14. Can you state what became of the Partrick & Carter instruments?

A. The Partrick & Carter instruments, to the best of my belief, were sent to different parties: some were sent to the Gold and Stock Telegraph Co.; some were sent to Mr. Edison's agent in England, and also to one of Mr. Edison's assistants who was at that time in England. I believe some were sent to Theodore Puskas at Paris. A number of people had given Mr. Edison orders for them, but whether they were shipped to them or not I have no recollection. I mentioned a Mr. Kellogg, who I believe wanted some for a foreign country—I believe South America; a firm in New York, named Wexel & Degres, who wanted some for Mexico. I believe there were also some sent to Vesey S. Butler, of Havana, Cuba, who was then the agent in that island for one of Edison's inventions. It is my impression that there were not more than a couple of them left at Menlo Park.

Q. 15. Have you made a search for any of these instruments where you would be most likely to find them, and, if so, with what results?

A. I have looked for these instruments not longer than within the last two or three days and have failed to find any trace of them in Mr. Edison's possession at present.

Q. 16. Have you any drawing or representation of one of the instruments made by Partrick & Carter, and, if so, will you produce them?

A. I have in my possession a photograph of one of the instruments supplied to us by Partrick & Carter, and which was sent by Mr. Edison to his assistant, who was then in London. This photograph represents the instrument and Mr. Adams listening to one of the receiving-tubes. It was made by the London Stereoscopic and Photographic Co., 106 Regent street, London. It is an exact representation of the telephone as made for Mr. Edison by Partrick & Carter. I have had a photograph made of this and now offer it in evidence.

(The photograph put in evidence and marked Batchelor's Exhibit No. 3.)

Q. 17. Which, if any, of the exhibits heretofore shown you most nearly resembles the Partrick & Carter instruments, referring to the transmitting portion?

A. The instrument marked Chandler's Exhibit No. 8 is the nearest to the instruments supplied; the only difference that I remember is that the Partrick & Carter instruments had the words "Edison Carbon Tele-

phone" in raised letters on the casting, as will be seen in Batchelor's Exhibit No. 3.

Q. 18. Were the instruments made by Partrick & Carter and sent to the parties stated in your answer to question 14 equipped with induction-coils and the necessary apparatus to adapt them for use for telephonic purposes?

A. Yes, sir; they were complete, except the battery. They were complete instruments for use.

Q. 19. Were the Partrick & Carter instruments made in accordance with the specification or instructions contained in your letter in evidence as Edison's Exhibit No. 6?

A. Yes, sir; they were.

Q. 20. State, if you know, whether or not Mr. Edison was to receive pay for the instruments sent to the parties as stated by you in answer to Q. 14.

(Objected to as leading.)

A. I do not know what arrangements Mr. Edison had with the different parties I have mentioned, except that the Gold and Stock Telegraph Co. had expressed its willingness to take all the Partrick & Carter telephones, which undoubtedly meant that they would pay for the same.

Q. 21. Had you any knowledge in 1878 of exhibitions of the Edison carbon telephone? and if so, state of what that knowledge consists, and when and where the exhibitions were made.

A. The experience that I have had myself in the exhibitions of the telephone were made previous to the date of these telephones. As far as we were concerned it was not necessary for us to give any exhibitions. These telephones were finished and made for commercial purposes, and, as far as I know, they were used for these purposes. The exhibitions of the telephone which I had been at previous to this were in Philadelphia, Mr. Bentley's office, frequently at the W. U. office in N. Y., at 195 Broadway, at the Smithsonian Institute at Washington, and a number of others.

Q. 22. Referring to the exhibition at the Smithsonian Institute, what was the purpose of that exhibition, what was the character of the instruments used, and how was the exhibition conducted?

A. The purport of that exhibition was to show before the National Academy of Sciences that the Edison carbon telephone was a commercially practical success. The instruments used as carbon transmitters were similar in style to those shown in the Franklin Journal, page 269 of volume 75, third series, date April, 1878.

(The volume referred to by the witness is the Franklin Journal, vol. 105 of the records of the library of the U. S. Patent Office.)

Q. 23. State whether or not the Edison carbon telephone was illustrated and described in any printed publication in 1878, and, if so, give the name of the publication and the date thereof as nearly as you can.

A. I believe it was described in a great many different publications,

and also illustrated, some of which I remember as follows: Journal of the Franklin Institute above referred to; Journal of the Telegraph, volume 11, page 114, and Scribner's Monthly for August, 1878.

(The publications referred to by the witness are contained in the bound volumes from the library of the U. S. Patent Office: Franklin Journal, volume 105; Scribner's Monthly, volume 14, and Journal of the Telegraph, volume 11.)

Q. 24. Had you any knowledge of the early use, sale, or offers to sell Edison carbon telephones for commercial purposes? and if so, state of what that knowledge consists, and give the place where and the dates when such uses, sales, or offers to sell were made.

A. I have generally given the information I had on that subject in my previous answers. I was an assistant with Mr. Edison all through his telephone business, and when in June, 1878, we had decided on our models and given orders for the manufacture of telephones after such models, I considered my work in the telephone as finished. I know from the correspondence at that time, although I had nothing to do with such selling or buying, that Mr. Edison had offers for such telephones, and that he promised to send, and, I believe, did send, such telephones to different parts of the world. I know that the Gold and Stock Telegraph Co. offered to buy from him the telephones made by Partrick & Carter, and I am quite sure that the telephones that he delivered to them of that make were paid for by the Gold and Stock Telegraph Co.

Q. 25. Can you give any instance of a use made by yourself or others to your knowledge of the Edison carbon telephone prior to the first of August, 1878? and if so, state about the date of such use, exclusive of any merely experimental use.

A. Yes, sir; I had a telephone in my house previous to June, which was used all the time to call me up and talk with me at the laboratory. I also put one of these Partrick & Carter telephones on this line after we received them, or just about the time that Edison went away, and it remained on that line for some time. These telephones were in common use between my house and the laboratory. We also had an arrangement whereby we might have one of the lines of the Western Union Telegraph Co., whereby they gave us a Philadelphia wire when it was required, and both Professor Barker, of the University of Pennsylvania, and Mr. Bentley, of Philadelphia, frequently called us up and talked with us over the line.

Q. 26. Was the use to which you referred in your last answer made in such a manner that outside parties and strangers coming into your place might have had knowledge or did have knowledge of the telephone?

A. The use to which it was put was exactly the same as that to which we put a telephone to now in a private house. But very many times when visitors were in the laboratory I have let them listen to the tele-

phone, and have also taken them down to my house to let them listen at the other end. Of course we had at that time a great many visitors to the laboratory, owing to the fact that the phonograph was new, and very many people wanted to see the telephone in its practical shape. We had a telephone always ready in one of the rooms, and my house could always be called up. Some of the party would go down to the house with me and the rest would stay at the laboratory.

Q. 27. Give the date as nearly as you can when the telephone used as you have stated was first put up at your house.

A. As near as I can remember now it was very shortly after the Washington trip, or about the end of April.

Q. 28. Was any obligation of secrecy imposed in respect to the use of the instruments by you, as you have stated, at that time?

A. No, sir; the principle of the carbon telephone was given the greatest publicity.

Q. 29. Were you acquainted with the exhibition-room at the W. U. Tel. Co.'s office in N. Y. City in the spring and summer of 1878? and if so, state what it was, for what purpose it was used, if you know, and whether or not you saw Edison carbon telephones of the character referred to in your testimony on exhibition there, and when.

A. I have been a number of times in the room spoken of as the exhibition-room, but I do not remember now just what floor it was on. I have been present there at exhibitions of the carbon telephone and in talking with Menlo Park, also in talking with Bentley of Philadelphia, and also remember being in the room with Mr. Walker when he was showing me how good our instruments worked in comparison with some instruments they had there. I believe this latter case was about the time that Edison went away, and at that time the instrument spoken of was a Partrick & Carter telephone. I do not know exactly the purpose of such an exhibition-room except it was to show to prospective subscribers to the telephone system the use of the system. When I was there it was generally to make a test of the capabilities of the telephone under the most exacting conditions, and I usually asked for the most difficult wire that they had to work on, as Mr. Edison considered that if we could get good talking over that one it was easy enough to work the others. These telephones fulfilled all those conditions required before Mr. Edison went west on the Eclipse expedition, and I do not remember being present at any exhibitions after he had been away a few days.

Q. 30. Please look at Edison's Exhibit No. 4 and state if you can what is meant by the gauges referred to in said letter.

A. It was Mr. Edison's intention after he had furnished these models that they should be made entirely interchangeable, as he thought that there would be a very large number of them put on the market. In order to do this, certain standard gauges had to be made which were exact measures of the parts of the instrument. One set of these gauges

he would supply the manufacturer with, and the other set he would either keep himself or turn them over to the person or company who had to pay for the telephone. If there was any difficulty about their working, therefore, all the parties had to do was to take an instrument apart and see whether they came up to the gauges.

Q. 31. In Mr. Barton's letter to Mr. Edison, Edison Exhibit No. 16, reference is made to a couple of telephones with induction coils which he proposed to send to Mr. Edison. What is your recollection as to the instruments received as recited in said letter, giving the date if you can when they were received, and what became of them?

A. The telephones and induction-coils spoken of as being sent by the Western Electric Manufacturing Co. to Edison, 2 in number, were received by Mr. Edison, and I remember that we put into them carbon buttons and decided after an extended trial that they were equally as good as our models. They were received by Edison about the date of the letter, June 18, 1878, and were afterwards sent to the Gold and Stock Telegraph Co. of New York, I believe, with Edison's indorsement.

Q. 32. Can you identify the character of the instrument referred to in said letter by reference to any of the instruments in evidence?

A. Yes, sir; the instrument marked Batchelor's Exhibit No. 1 is exactly similar to the ones they sent to Edison.

Direct examination closed.

Cross-examination:

X Q. 33. Please state your relation with Mr. Edison during the years 1877 and 1878.

A. I assisted him in all his experiments in the laboratory, my part of the work being, besides experimenting, to develop the ideas mechanically, and for this purpose he furnished me with all the help and machinery that I wanted.

X Q. 34. Were you employed directly by Mr. Edison during that time?

A. I had no one to look to but Mr. Edison in all my work.

X Q. 35. How about your salary or compensation?

A. I had no salary, but received an interest in the inventions when anything resulted from them.

X Q. 36. Were you at that time familiar with the general scope of Mr. Edison's contracts and arrangements with the Western Union Telegraph Co.?

A. I only knew of it from what he had told me about it. I knew we were not working for nothing, but I very seldom inquired about the contract. It was quite sufficient for me to know that if he got anything out of it I should get my share.

X Q. 37. Did you know who furnished the funds for carrying on the work?

A. I do not recall at present that anybody furnished specific funds

for these experiments, but I know that Edison found the money to pay the workmen and experimenters.

X Q. 38. Had you no knowledge of an existing contract or agreement between Mr. Edison and the Western Union Telegraph Co. concerning his (Mr. Edison's) telegraphic and telephonic inventions and the development of the same during the years mentioned?

A. I believe such a contract existed, and I believe I could have known all the particulars about that contract if I had wished, but I really could not give any information about it at present.

X Q. 39. In your answer to Q. 4, referring to certain instruments, you state "these instruments were put in the market about May or June, 1878." What do you mean by "put in the market"?

A. As far as we were concerned, to put in the market was to deliver to the Gold and Stock Telegraph Co., or whoever the Western Union Telegraph Co. should tell us to.

X Q. 40. What instruments were delivered to the Gold and Stock Telegraph Co., and thus put in the market, during the months of May and June, 1878? State how many such instruments there were, when they were delivered, and explain each distinct pattern or form, if there were more than one.

A. Instruments similar to the carbon telephone shown in volume 105, Franklin Journal, had been sent to them; there were also a few carbon telephones made of a similar pattern to that, but made of box-wood; there were also one or two instruments made similar to that of iron, and the models similar to Edison's Exhibit No. 1 were delivered for the Gold and Stock; instruments similar to Edison No. 1 were delivered to the Gold and Stock, besides the models which Edison sent himself to Philadelphia. Some of these carbon telephones may have been delivered in April.

X Q. 41. Were these the only varieties delivered to the Gold and Stock, and how many of each were so delivered?

A. The only varieties I call to mind at present; there were not many of each kind. The latter ones there has been no practical change in and are being used to-day.

X Q. 42. By whose instructions or directions were these instruments sent to the Gold and Stock Co.?

A. As far as I remember, Mr. Edison gave me instructions generally to take them.

X Q. 43. Did he tell you for what purpose they were to be delivered? and if so, state what your instructions were on this point.

A. The earlier forms mentioned we generally took in, put them on one of their lines, either on the city or to Philadelphia, and after talking with them for some time left them there. My instructions in this matter were generally got from Edison, and were to take them to the Gold and Stock Telegraph Co., put them up where they wanted them, and leave them there. Sometimes Mr. Edison was himself there.

X Q. 44. Prior to the giving an order to Carter & Partrick, were any of the Edison carbon transmitters manufactured outside of Edison's works or beyond his control?

A. Not that I am aware of.

X Q. 45. When, if you know, was the Edison transmitter accepted by the Western Union or by Mr. Orton as in condition for practical use?

A. I cannot give you the date at which the Western Union accepted it, but the Gold and Stock Telegraph Co., or Mr. Walker, the president, the parties whom we dealt with as to the practical working of the telephone, were perfectly satisfied with the instruments that we made, and expressed their willingness, as shown in Exhibit 13 of June 14, 1878, to take all the 25 machines that were being made by Partrick & Carter.

X Q. 46. Is that the only information you have on the subject?

A. I do not remember any letter in which the Western Union Telegraph Co. accepted the telephone; if there was one I very likely have seen it, but if so it has slipped my memory.

X Q. 47. I do not refer entirely to letters, but to your general information on the subject.

A. The only information I have on the subject is that these instruments were afterwards manufactured in large quantities for the Gold and Stock Telegraph Co., and large numbers of them were put out in public use and gave perfect satisfaction; this proved, what we knew to be a fact, that the experiments were finished at that time.

X Q. 48. At what time do you refer?

A. June, 1878.

X Q. 49. Did Mr. Walker, to your knowledge, have definite information as to the construction and operation of the Partrick & Carter instruments at the time Edison's Exhibit No. 13 purports to have been written?

A. That I cannot say.

X Q. 50. What, if you know, became of the original bill of which Edison's Exhibit No. 12 is said to be a duplicate?

A. I do not know what became of the original bill; I believe the majority of the papers that are here have been looked up before in an interference suit during the time that I was in Paris. It is probable that they missed the bill at that time and had to have a duplicate made.

X Q. 51. Was it customary at that time for Mr. Edison to have bills of that character made in duplicate?

A. I do not think so.

X Q. 52. Do you know when the bill, Edison Exhibit No. 12, was made and delivered or received?

A. The bill in question is marked "Duplicate;" I therefore cannot tell when it was even likely to have been received.

X Q. 53. Please state the general character and composition of those parts of the Edison carbon telephone referred to in your answers as carbon buttons.

A. The carbon button was simply a small disk made of finely divided carbon and pressed into shape of a flat disk about $\frac{5}{8}$ of an inch in diameter and about an eighth of an inch thick.

X Q. 54. Were such buttons provided with each of the transmitters you have mentioned as being delivered to the Gold and Stock Company, April, May, and June, 1878?

A. Yes, sir.

X Q. 55. For what purpose, if you know, were the instruments which you have testified were sent to the Western Electric Co. in June, 1878, sent there for?

A. I presume you mean the models for them to work from. These were sent in response to the request of Mr. Walker, as shown in Exhibit No. 14.

X Q. 56. Was the Western Electric Company employed by yourself or Mr. Edison to manufacture the telephone?

A. No, sir; I believe they manufactured the telephones for the Gold and Stock Telegraph Co.

X Q. 57. In what way, if you know, was the Gold and Stock Telegraph Co. connected with the Western Union Telegraph Co. at that time?

A. I do not know the nature of their arrangements, but only suppose that they were one and the same thing as far as we were concerned. My understanding of it at the time was that the Gold and Stock Telegraph Co. were the persons who were going to exploit the telephone business.

X Q. 58. Did you consider yourself at liberty to make and sell telephones, and particularly the carbon transmitters, during the year 1878?

A. My understanding of the arrangement was that Mr. Edison had control of his patents to all countries outside of the United States, and probably Canada, and that in ordering 25 telephones from Partrick & Carter he did not intend to sell any of them in the United States except to parties designated by the Western Union Telegraph Co.

X Q. 59. When applications were made to purchase carbon telephones direct to you, what response did you make, if any, to such applications?

A. Applications of course were never made personally to myself; all applications came to Mr. Edison. I do not remember what general arrangement or what general answer he gave to them, except that I know that he was willing to supply telephones and he did send telephones abroad.

X Q. 60. Were any instruments of the pattern furnished by Partrick & Carter made or used after the delivery of the first 25?

A. The principle of the carbon transmitter and its method of working, the induction-coil, keys, and circuit-breakers, in their entirety, have been used by every carbon telephone, or rather by every practical telephone, since that time. The specific method of receiving the message

has been changed. I do not think that we had any more of that style made.

Adjourned to Wednesday, February 5th, 1890.

ORANGE, N. J., *February 5, 1890, 10 a. m.*

Met pursuant to adjournment. Present as before.

X Q. 61. You have stated in answer to X Q. 35 that during the years 1877 and 1878 you received no salary, but had an interest in the telephone inventions. Will you please state the nature of that interest?

A. My arrangement with Mr. Edison was that I should give my undivided time and attention to the development of his ideas, and that in payment of same I should get a percentage of whatever he realized from them.

X Q. 62. Please state how long this arrangement continued and when it terminated.

A. I believe I made the arrangement with Mr. Edison somewhere about 1873 or 1874, and it has continued to the present time.

X Q. 63. Are you the Charles Batchelor who testified in behalf of Mr. Edison in what are known as the telephone interferences?

A. Yes, sir.

X Q. 64. And did you on the 12th of January, 1881, testify in that case as follows? I read from a copy of the testimony for Thomas A. Edison, pages 355-6, X Q. 2:

Please state what pecuniary interest, if any, you have in the subject-matter in controversy and your present relations with Edison regarding electric telephony.

A. I have not the slightest pecuniary interest in the result of this controversy. All the money I have received from "the telephone" has been paid to me by Mr. Edison for work that I have done on the necessary experiments under his direction.

(The witness is requested to look at the copy of the testimony referred to, the same being a copy belonging to the Edison library.)

A. Yes, I did so testify, as we had finished our work on the telephone in 1878. Although I do not recollect exactly now, whatever moneys had been received or interest had been received, I believed at that time of testifying I had received whatever share was due me according to our understanding.

X Q. 65. Since giving that testimony have you received any share or proportion under your agreement of receipts from telephone inventions?

A. I have received money for account of work that I did on telephones for some years after the date of my testimony there.

X Q. 66. In answer to Q. 7 you state that you recognize Edison's Exhibit No. 3 as one made "previous to our having furnished models to other people to manufacture." Please state what models you have reference to.

A. The models I had reference to were models of telephones for manufacture by Partrick & Carter, George M. Phelps, and the Western Electric Manufacturing Co. of Chicago.

X Q. 67. Were the parties named the only ones furnished with models for manufacturing purposes?

A. I think they were for manufacturing purposes, but I believe we furnished models for estimate to Fitch of Cortlandt street, also to J. P. Murray of Newark. I do not think, however, that these latter parties manufactured any telephones for us of this style.

X Q. 68. In your answer to question 8, you refer to a lot of 25 or 30 telephones made at the laboratory in Menlo Park, and of which Edison's Exhibits Nos. 1 and 3 are said to be examples. Please state if all of these instruments were alike in construction and mode of operation.

A. In principle they were exactly alike. In mechanical detail they varied a little. I should say in the number that was made there were about three different kinds, but all of them were exactly the same in principle.

X Q. 69. Were they made for experimental and testing purposes?

A. The first few were made as standard models, the next few were made as models for manufacture, and the rest were made for actual service in telephones.

X Q. 70. When you speak of model what do you mean?

A. By the word "model" I mean carbon transmitters that were as near perfect in mechanical detail as they could be got. When we make a model it is generally a sample one that is quite right, and if other people have to make instruments from that model we use the model always as a gauge to tell whether the others are equally good.

X Q. 71. Do you know of your own knowledge that Exhibit No. 12 is a correct copy?

A. I do not know anything about this bill, except that it was taken from Edison's files. I know that that was the price the telephones were made for and believe it to be a copy of the genuine original bill of Partrick & Carter.

X Q. 72. What are the grounds of your belief?

A. Simply that it is got from our files, and has been in the hands of our book-keeper, who, I think, if there was anything wrong about the bill, would have notified me.

X Q. 73. Were the 25 Partrick & Carter instruments referred to in your testimony tested at the laboratory before being forwarded to the Gold and Stock Co.?

A. They were. They were not, however, all forwarded to the Gold and Stock Co.

X Q. 74. How many, if you know, were delivered to the Gold and Stock?

A. I do not remember at present, but to the best of my belief about a half of them.

X Q. 75. In your answer to question 17 do you have reference to the internal or external construction of the instruments, or to both?

A. I referred in that answer to the outside looks of it. The instrument outside was similar, except that the letters composing "Edison Carbon Telephone" were raised up from the metal on the Partrick & Carter instruments. The internal arrangement and the principle of the instrument was the same.

X Q. 76. Referring to your answer to Q. 24, please state the source of your information concerning the payment by the Gold and Stock Co. for the Partrick & Carter instruments delivered to them, and state when, if you know, such payments were made.

A. I have not seen any record of payment, but I know that Mr. Edison never made any instruments or had them made for anybody else without being paid for them. These instruments were not by any means a question of experiment; they were actual instruments for public use, and I am quite sure they were not delivered over to the Gold and Stock without the Gold and Stock paid for them.

X Q. 77. Then, as matter of fact, you do not know that these instruments were paid for, but merely conclude such to be the case.

A. I do not know of my own knowledge that they paid for them, but I do know that it was not Mr. Edison's habit to do that kind of thing for nothing. I believe I have seen here a letter, which probably is in evidence, in which Mr. Edison gave the Gold and Stock Telegraph Co. the option to take them or not, as it suited them, and only if they proved perfectly satisfactory. This is quite conclusive to my mind that it was the nature of a sale and not a present. I refer to a letter which appears in Mr. Edison's copy-book of June the 12th, 1878, page 266, which is as follows:

JUNE THE 12TH, 1878.

HON. GEORGE WALKER, N. Y.:

DEAR SIR: I have given Partrick & Carter of Philadelphia an order for 25 telephones for my own use. If they prove satisfactory and you wish to have them, I will turn them over to you. Mr. Batchelor goes to New York to-day with 100 carbon disks for Mr. Phelps.

Very truly,

T. A. EDISON.
G.

X Q. 78. When was that line put up to your house referred to in your answer to question 25?

A. I do not remember the date of its being put up, but I believe about the summer of 1876. I place this date simply from the fact that I remember one of the first things that we did after going to Menlo Park, which was in February or March, 1876, we connected our houses with the laboratory, so that we could communicate at any time.

X Q. 79. Was it not the common practice to make use of these private lines for testing various instruments?

A. It was not the common practice, but instruments were frequently

tested or shown on my particular line. The reason of this was that sometimes people did not like to try a telephone in a building where it was possible to hear the talker's voice outside of the telephone.

X Q. 80. Was it not the common practice when any new telephone was produced—and I refer particularly to the mechanical structure—to subject it to severe trials for the purpose, among other things, of ascertaining its capacity to preserve the adjustment under different conditions of the atmosphere, and the various trials to which it would probably be subjected if offered to the public and used by them?

A. It was. As regards the mechanical construction all those trials were possible to be made in the laboratory. When, however, we wanted to see how good it would be for commercial use we sent or took them to New York, where it was notorious that if a telephone would be successful there it would work on any line in the world.

X Q. 81. Were any of the Partrick & Carter instruments delivered to the Western Union Telegraph Co.?

A. I presume the delivery to the Gold and Stock Telegraph Co. in the Western Union Co. building was the same thing. I have no knowledge of any being specifically sent to the Western Union Telegraph Co.

X Q. 82. You have in your testimony made mention of sales of the Partrick & Carter instruments to the Gold and Stock Co. Do you regard the letter Exhibit No. 13 as furnishing the evidence of such sale?

A. I do not regard it as the evidence of such sale, but I regard it as the order on which to deliver and bill the goods.

X Q. 83. In giving your testimony have you drawn your conclusions as to the sale of the Partrick & Carter instruments to the Gold and Stock Co. largely from the information contained in Exhibit No. 13?

A. Largely from the Exhibit No. 13, Exhibit No. 8, and also from the letter to Walker which I have just quoted.

X Q. 84. It is a fact, is it not, that at the time Exhibit No. 13 purports to have been written none of the Partrick & Carter instruments had been made or delivered to Mr. Edison, that said instruments as such were not in existence at the time, and that the whole 25 instruments ordered from Partrick & Carter were not delivered to the Gold and Stock Co.? Am I correct?

A. At the time that Exhibit No. 13 purports to have been written I do not think any of the Partrick & Carter instruments had been delivered, and I do not believe that all of the instruments of Partrick & Carter were delivered to the Gold and Stock, but a number of them were sent abroad by Mr. Edison. As to whether the instruments were in existence at that time or not I do not know.

X Q. 85. You will please state, if you know, what conditions, if any, were imposed at the time of making the sales, so called, or sending away the instruments referred to in question 14.

A. I do not know what arrangement Mr. Edison had made in regard

to the payment of such instruments, but I remember a number of them being sent away.

X Q. 86. My question is not confined to the payments, but includes as well the use, manufacture, sale, etc., of those instruments.

A. I do not know anything about these arrangements, but I understood that Mr. Edison had the right to sell in all foreign countries, but the Western Union Co. had the right for the United States.

X. Q. 87. Please state, if you know, in whose handwriting the indorsement on the back of Exhibit No. 6 is made, and what it purports to recite.

A. I do not know except it is the mark that Partrick & Carter put on it when they put it in their files.

Cross-examination closed.

Redirect examination :

R D. Q. 88. In the particular instance referred to concerning the use of the telephone between your house and the laboratory, as referred to in previous answers, was such use made for the purpose of testing the practicability of the instrument or did you at that time use the instrument for your personal convenience and for business or similar purposes ?

A. As I said before it was used by my family for purposes of communication at all times with the laboratory or myself.

R D. Q. 89. At that date, May and June, 1878, had the carbon telephone been actually tested to demonstrate its practicability, and, if so, what was the result of those tests ?

A. At the time the Partrick & Carter telephones were on my line we had long ceased to consider them as an experiment. Many tests and exhibitions of the carbon telephone had been made before this date, and to which I have testified. The Partrick & Carter telephones also were not the only ones that were put on my line, as for a long time previous to this my line had been worked by carbon telephones.

Redirect closed.

R X Q. 90. Were the Partrick & Carter instruments on use on your private line during the months of May or June, 1878 ?

A. No, sir.

Examination closed.

CHAS. BATCHELOR.

Subscribed and sworn to before me this 4th day of February, 1890.

[SEAL.]

JOHN F. RANDOLPH,
Notary Public.

FEBRUARY 6, 1890.

TESTIMONY OF GEORGE M. PHELPS.

GEORGE M. PHELPS, a witness called on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit:

Q. 1. What is your name, age, residence, and occupation?

A. George M. Phelps; age, 46; residence, Brooklyn, N. Y. I am an electrician, and at present one of the editors of the Electrical Engineer.

Q. 2. Are you the same George M. Phelps, jr., who testified in 1881 in the speaking-telephone interferences between Edison, Bell, Gray, and others?

A. I am.

Q. 3. In your deposition in that case you give an account of a lecture upon the telephone given by you at Dr. Wells' church in Brooklyn. Do you now recollect that lecture, and can you say from memory what telephones, if any, you exhibited to your audience?

A. I do remember the lecture, and remember also the character of the telephones which I used on that occasion; I think the date was May 23d, 1878. For the purpose of transmission, I employed on that occasion a number of Edison carbon transmitters. As receivers I used magneto-telephones of at least two varieties, known at that time as the "duplex" and the "crown" telephones respectively. The transmission was from the residence of Dr. Wells, situated a short distance from the church, to the lecture room of the church. The Edison carbon transmitters used were similar in their general construction to those since generally in public use. At the transmitting end of the circuit the carbon button and the primary winding of an induction-coil, together with a galvanic battery, were in a local and separate circuit, the primary winding of the induction-coil being connected to the wire leading from the transmitting room to the receiving telephone or telephones in the audience-room in the usual manner now familiar. The audience-room contained probably from two to three hundred persons, all of whom distinctly heard a short address made to them by Dr. Wells at the transmitting room in his house; the address of Dr. Wells was received upon a "crown" telephone, in connection with which a large resonator was employed to amplify or direct the sound. Singing by a quartet of voices, and music performed upon a guitar, were also successfully transmitted on that occasion, and were clearly audible to the entire audience. It may be mentioned that the transmission was so perfect that the voice of Dr. Wells, who addressed the audience unawares, was immediately recognized by a number of persons in the lecture-room.

Q. 4. Had you, previous to this lecture, used telephones of the magneto or other type, and, if so, how did the carbon transmitter used on this occasion compare with the transmitters previously used?

A. I had at that time frequently used magneto-telephones of several varieties of construction. The Edison carbon telephones referred to in my previous answer were much more powerful as transmitters than any magneto-telephone that had come under my observation.

Q. 5. Were the transmitting and receiving telephones used by you on that occasion connected to line and equipped substantially similar to telephone circuits as subsequently equipped and used in public during the year 1878 and thereafter?

A. They were.

Q. 6. How did the Edison carbon transmitter you then used compare with the instruments in evidence as exhibits which are now before you and with the telephone shown and described in Patent No. 214,840, granted to G. M. Phelps April 29, 1879?

A. In their essential features they are substantially the same. I refer to exhibits, Batchelor's Exhibit No. 1, No. 2; Edison's Exhibit No. 1, No. 3; Chandler's Exhibits Nos. 7 and 8, and the copy of Patent No. 214,840, all of which are now before me. What I mean by saying that in their essential features they are substantially the same is this, that they are all carbon transmitting telephones, the essential features of which are a carbon button or electrode and means of contact thereto, subject to modifications of pressure by a diaphragm.

Q. 7. State who was this patentee, George M. Phelps.

A. He was my father.

(A copy of the patent referred to by the witness is offered in evidence as Phelps Exhibit No. 1.)

Q. 8. What was your occupation in 1878?

A. In 1878 I was assistant to my father, G. M. Phelps, in the superintendence of the factory of the Western Union Telegraph Co. in this city.

Q. 9. What was your first knowledge of the Edison carbon transmitter?

A. In the early part of the year 1878, to the best of my recollection, either in the late winter or early spring, a few specimens of Mr. Edison's carbon transmitter were brought to the Western Union factory, where they came under my observation and experiment.

Q. 10. State whether or not any Edison carbon transmitters were made at the Western Union shops, and when the first ones were made there.

A. Large numbers of them were made there. The earliest delivery of Edison carbon transmitters that I can identify was on the 31st of May, 1878; for a considerable period after that date they were made in considerable quantities at the Western Union factory.

Q. 11. State what became of these instruments.

A. The one transmitter delivered May 31st was sent from the Western Union factory to the Gold and Stock Telegraph Co. in New York. That was also the case with a number of subsequent deliveries. The

greater portion, practically all, of the large number manufactured were sent from the factory to the supply department of the Western Union Telegraph Co. in New York. On June 13th, 1878, one Edison transmitter was delivered to the Gold and Stock Telegraph Co., and on June 21st two more of them were so delivered. On July 17th one was sent to the Western Electric Manufacturing Company of Chicago, another having previously been delivered to that company on a date which I cannot identify. On the 22d of July ten Edison transmitters were delivered to the Western Union supply department, and on the 25th of July ten more were delivered to the same place. On the 1st of August 50 of them were delivered to the Western Union supply department.

Q. 12. How do you fix these dates?

A. I fix them by reference to a memorandum-book which I kept at that time.

Q. 13. Will you produce the memorandum-book to which you have referred for the inspection of counsel?

A. I have it in my hand.

(The witness has the book here present and it is tendered to counsel for Drawbaugh for examination.)

Q. 14. When and by whom were these entries made?

A. They were made by myself and upon the dates heading each entry.

Q. 15. Will you allow the notary to copy these entries on the record?

A. Certainly.

(By consent the entries referred to are copied into the record. They are as follows:

1878.

MAY 31.

One D. S. octagon call-box, ☒ 937, with Edison carbon transmitter (elbow pattern), and one hand telephone, ☒ 3815. Sent to G. & S. Co. for trial.

(In red ink :) Ch'g'd Aug. 1.

JUNE 19TH.

On June 13th sent to G. & S. Co., for trial, 1 D. S. call-box, ☒ 966, with Edison transmitter (elbow form), and 1 hand telephone, ☒ 3783.

(In red ink :) Ch'g'd Aug. 1.

JUNE 21.

Sent to Mr. Walker for examination 2 Edison carbon transmitters, with desks, sounders, keys, and switches.

Marked on desk ☒ 1 and ☒ 2.

Also 2 hand telephones, ☒ 2075 and ☒ 3133.

(In red ink :) Charged August 1st.

JULY 17TH.

One carbon transmitter sent to W. E. Mfg. Co., Chicago, for sample. (One has already been given to Mr. Kellogg—in parts.)

(In red ink :) 2 charged Aug. 1st.

JULY 22D, 1878.

10 carbon tel. sets. Regular.

(In red ink :) Sounder numbers, 4, 11, 16, 17, 18, 22, 33, 45, 50, 52.

Not ch'g'd.

(In red ink :) Ch'g'd Aug. 1st.

JULY 25.

10 Edison carbon sets. Less sounders, &c. Del'd.

(In red ink :) Ch'g'd Aug. 1.

91 to 100, inclusive. Not ch'g'd.

1878.

AUGUST 1.

Aug. 1st. Delivered and charged. 50 Edison carbon transmitters only.)

My attention has been called to the printed record of my evidence given January 7th, 1881, in the speaking-telephone interferences, and in my answer to question 6, page 333 of the Edison record of testimony, pages 332 and 333, I find an inaccuracy, namely: It is there stated that there was a delivery of fifty Edison carbon transmitting telephones on the 24th of July. I find by examination of my memorandum-book that the fifty carbon transmitters were not delivered until August 1st instead of July 24th. The error appears to arise from mistaking an entry of an order for an entry of delivery. I find also that in the same answer to question 6, in the above-mentioned evidence, ten Edison carbon telephones delivered on July 25th, 1878, were omitted.

Q. 16. Are you now able to fix more definitely the date of the lecture to which you have referred in answer to question 3?

A. I am positive that it was on the 23d of May, 1878.

Q. 17. Please explain what is meant by the entry in red ink "Charged August 1st" in these entries to which you have referred.

A. The entries in red ink, namely, "Charged Aug. 1," referred to the invoicing of the telephones to the Western Union Telegraph Co., and such red-ink entries were made August 1st, when the carbon telephones delivered up to that date were so invoiced. The reason why the telephones were not invoiced or billed upon the date of their delivery is, as I recollect, because the price to be charged for them was not yet established.

Q. 18. What do the signs and figures "X1" and "X2" in the entry of June 21, 1878, mean?

A. The entry states "marked on desk No. 1 and No. 2."

Q. 19. What is the signification of the numbers in red ink in the entry of July 22, 1878, in connection with the erased numbers below the same?

A. Examining the entry now and finding the words "sounder numbers" written opposite the line of erased figures, I conclude that in the original entry I had in error entered the numbers stamped upon the sounders (ordinary Morse sounders constituting a part of the set of

apparatus) instead of the numbers pertaining properly to the telephone sets, and that I had discovered the error when making the memorandum for charging up or invoicing the telephones on the 1st of August.

Q. 20. What is meant by "91 to 100, inclusive, not charged," in the entry of July 25th, 1878?

A. "91 to 100, inclusive," refers to the numbers stamped upon the ten sets delivered on that date; "not charged" simply notes the fact that they were not at that time invoiced. The term "Edison carbon sets" in the entry of July 25, as indicated by the further notation, namely, "less sounders, &c.," means an Edison carbon telephone transmitter with jointed arm mounted upon a small wooden desk adapted to be attached upon a wall.

Q. 21. Who is Mr. Kellogg referred to in the entry of July 17th?

A. He is Mr. M. G. Kellogg, who was at that time superintendent of the factory of the Western Electric Manufacturing Co. of Chicago.

Q. 22. Is your father still living?

A. He is not.

Direct examination closed.

Cross-examination:

X Q. 23. Will you please explain how you came to deliver the lecture at Dr. Wells' church in Brooklyn, to which reference has been made in your testimony?

A. It happened in this wise: Two or three acquaintances and neighbors of mine in Brooklyn asked me to spend an evening in explaining to them the principles and operation of the telephone, then attracting general public interest. I agreed to do so, and they, happening to belong to Dr. Wells' church and Sunday-school, turned the affair into a public exhibition, quite of their own notion, giving me perhaps a week's notice of their intention.

X Q. 24. Were the parties present by invitation?

A. I think no formal invitation was made to any one; the young men referred to invited whom they pleased, and I invited a number of friends after the public exhibition was determined upon.

X Q. 25. Who owned the instruments used on that occasion?

A. They were the property of the Western Union Telegraph Company, though possibly one or two of the transmitters may have belonged to Mr. Edison. I procured them at the Western Union Company's factory.

X Q. 26. Will you please state where, by whom, and for what purpose the memorandum-book to which you have referred in your testimony was made?

A. The book was kept upon my desk in the office of the Western Union factory; by myself, in my own handwriting; much in the way of a diary, to keep track of occurrences in connection with the business of the factory.

X Q. 27. Please state fully the relations existing between the Western Union Telegraph Co. and the Western Union factory, to which reference has been made, during the time you were employed as assistant superintendent.

A. The factory was owned and operated by the Western Union Telegraph Co. for the manufacture of machinery, apparatus, and supplies.

X Q. 28. Where was the factory located?

A. The factory was located in New Church street, New York, Nos 72 to 76, which street is now called Trinity Place. There was always confusion about the street numbers. They were sometimes called 62 to 68, and so appear on some letter-heads.

X Q. 29. In your answer to Q. 6 you have stated that the Edison carbon transmitters used by you at Dr. Wells' church were the same in their essential features as certain exhibits referred to therein. Will you please describe, if you can, and identify, if you are able, the particular mechanical structure of those instruments, aside from what you term their essential features?

A. The transmitters used by me on the occasion referred to resemble the exhibits mentioned, and still before me, in the following particulars: Their external casing was substantially identical, including their mouth-pieces; their size was the same. They were provided with similar diaphragms, with similar carbon buttons, with similar means of contact at both sides of the carbon button, and similar means for the impact of the diaphragm upon the carbon button through a stud. I am not able to identify the specific construction of the means employed for the adjustment of the contacts at that time, nor all the minor details of construction.

X Q. 30. At the times of delivery of Edison carbon transmitters to the Gold and Stock Company, what was your understanding as to the relations borne by that company to the Western Union Telegraph Co.?

(Objected to as incompetent.)

A. My understanding is that at that time the Western Union Telegraph Company practically owned the Gold and Stock Telegraph Co.

X Q. 31. Was the Western Union factory, of which you were assistant superintendent, in any way connected with the Western Electric Manufacturing Company of Chicago, to which you have referred?

A. It was not.

X Q. 32. In giving your evidence in the speaking-telephone interferences, did you not have in your possession and make reference to the same memorandum-book from which entries have been copied in this case?

A. I did.

X Q. 33. To what does the entry, "Sent to G. & S. Co. for trial," in the memorandum of May 31, 1878, have reference?

A. It refers to the call-box with Edison transmitter, &c., noted in the entry. "For trial" I understand to mean for examination and test.

X Q. 34. To what does the word "regular" have reference in the entry of July 22d?

A. The word "regular" refers, as I recollect, to a complete "set" of the kind known as "desk sets," that is, a small wooden desk with an Edison transmitter attached by a jointed arm, and provided with a sounder and key for calling, and having an induction-coil inside the desk. Such a set was at that time sometimes called "regular" in contradistinction to some sets of a similar construction from which the sounder and key were omitted.

X Q. 35. Were any changes made in the construction, arrangement, or form of the Edison transmitters between the date of the first delivery, May 31, 1878, and July 22, 1878, when the first delivery of ten was made?

A. Probably not; the form of the adjustment-screw at the back of the transmitter may have been modified, but I think no other changes were made during the interval you specify.

X Q. 36. Were the fifty transmitters mentioned in the entry of August 1st, 1878, the same in all respects as the transmitter mentioned in the entry of May 31, 1878?

A. The transmitters were, I believe, identical with that of May 31st, but instead of being mounted upon a desk through a jointed arm they were simply provided with handles.

Cross-examination closed.

Redirect examination:

R D. Q. 37. Please refer again to your answer to X Q. 33, and explain more fully what you mean by the expression, "'for trial' I understand to mean for examination and test."

A. I mean that that is my interpretation of the words "for trial," and I am confirmed therein by the fact that on the day following, that is, on June 1st, 1878, an order was received at the Western Union factory for the manufacture of 500 Edison carbon transmitters.

R D. Q. 38. Have you an entry referring to said order, and will you allow the notary to copy the same on the record?

A. I have in my note-book, already referred to, the following entry: "1878, June 1st, order from Mr. Walker for 500 Edison carbon transmitters with sounders and keys." In red ink there is noted below this entry the following: "Order completed, last delivery and charge December 10th." The deliveries noted in my evidence above were in pursuance and on account of this order of June 1st, 1878, except as regards the fifty "transmitters only" delivered August 1st, which were upon a separate and other order.

R D. Q. 39. When and by whom was this entry made?

A. The entry was made by myself upon its date.

R D. Q. 40. State generally the character of the instrument composing the 500 of the said order.

A. I have described them in my answer to X Q. 29 in explaining the meaning of a "regular" set.

R D. Q. 41. Who is the Mr. Walker referred to in said order, and where is he, if you know?

A. He was Mr. George Walker, vice-president of the Gold and Stock Telegraph Co., who has since died.

Examination closed.

GEORGE M. PHELPS.

Adjourned until February 7th, 1890, 10.30 a. m.

150 BROADWAY, NEW YORK,
February 7th, 1890.

Met pursuant to adjournment. Present, counsel as before.

No witnesses being present, and it being impracticable to proceed further at this time, owing to the absence from the city of important witnesses and delays occasioned by the sickness of other important witnesses, the taking of testimony is adjourned to Wednesday, February 12th, 1890, at 11 o'clock a. m., at 150 Broadway, room 47.

No. 150 BROADWAY, NEW YORK,
February 12th, 1890, 10 a. m.

Met pursuant to agreement. Present, counsel as before.

EXAMINATION OF ABIJAH R. BREWER.

ABIJAH R. BREWER, a witness on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit:

Q. 1. What is your name, age, residence, and occupation?

A. Name is Abijah R. Brewer; age, 43; residence, Bloomfield, N. J.; occupation, secretary of the Western Union Telegraph Company, the Gold and Stock Telegraph Company, the American Speaking Telephone Company, and others.

Q. 2. How long have you been secretary of the American Speaking Telephone Company and the Gold and Stock Telegraph Company?

A. Since March, 1882.

Q. 3. State whether or not you have charge of any of the correspondence of the Gold and Stock Telegraph Co., and of the American Speaking Telephone Company, for the year 1878, and of any of the records of those companies for that time relating to telephones.

A. I have charge of such correspondence and records.

Q. 4. Will you produce such correspondence and records as you have in your custody throwing light upon the early use of the Edison carbon telephone?

A. I have here the minute-book of the executive committee of the Gold and Stock Telegraph Company, which contains some references to that subject, and also letters received by and copies of telegrams sent by officers of the Gold and Stock Telegraph Company, and the letter impression books of officers of said company, with impression copies of letters sent by them during the period named.

Q. 5. Please read from the minutes of the executive committee of the Gold and Stock Telegraph Co., to which you have referred in your answer, such portions of the minutes as tend to throw light upon the early manufacture, use, and sale of the Edison carbon telephone.

A. I read from the minutes of the executive and finance committee of May 29th, 1878, the following paragraph: "Voted also that an order be given to Mr. Phelps to construct 500 Edison carbon transmitting telephones with Morse key and sounder and induction-coil." Also from the minutes of the same committee of June 13th, 1878: "Voted that the president be instructed to order from the Western Electric Manufacturing Co. 6 Edison carbon telephones with Morse key and sounder and induction-coil, the same to be delivered to and tested by Mr. Edison, and when proved to be satisfactory to him and to this company that the president be authorized to increase the order to 250." Also from the minutes of the same committee of June 27th, 1878: "Voted that Vice-president Prescott be authorized to sell telephones to Professor Chandler for scientific purposes only at Government rates."

(The book from which the above extracts were read by the witness is tendered to counsel for Drawbaugh for examination, this being the original record belonging to the Gold and Stock Telegraph Co., who decline to permit it out of their custody.)

Q. 6. Describe generally the correspondence to which you have referred.

A. The books are letter-books, No. 6 labeled "President's Book from February 15th, 1878, to May 25th, 1878," and No. 7 "President's Book from May 26th, 1878, to July 30th, 1878." Package of papers in my hand consists of original letters addressed to the officers of the Gold and Stock Telegraph Co., copies of telegrams sent by the same officers, and other copies received by them.

Q. 7. State what the several letters are and whether you are familiar with the handwriting and the signatures.

A. A letter of July 12th, 1878, addressed to George Walker, vice-president, from J. J. S. Wilson, superintendent, Chicago.

A letter from Baltimore, Md., July 9th, 1878, addressed to George Walker, vice-president, signed by N. de Bree, agent.

A letter from Menlo Park, N. J., dated June 17th, 1878, addressed to Hon. George Walker, vice-president, signed by T. A. Edison.

A letter dated St. Louis, June 17th, 1878, addressed to George Walker, signed by R. C. Clowry, ass't gen. superintendent.

A letter dated June 13th, 1878, from Chicago, addressed to George Walker, vice-president, signed Enos M. Barton, secretary.

A letter dated Menlo Park, N. J., June 12th, 1878, addressed to Hon. George Walker, N. Y., signed T. A. Edison.

A letter dated Chicago, June 5th, 1878, addressed to George Walker, vice-president, signed Enos M. Barton, secretary.

Copy of a telegram dated Philadelphia, July 18th, 1878, addressed to George Walker, vice-president, signed J. Merrihew, superintendent.

A copy of a telegram dated July 16th, 1878, addressed to E. M. Barton, secretary, Chicago, Ill., signed George Walker, V. P.

Copy of a telegram dated Chicago, Ill., July 17th, 1878, to George Walker, N. Y., signed E. M. Barton, sec'y.

Copy of a telegram dated Chicago, July 16th, 1878, addressed to George Walker, vice-president, signed E. M. Barton, secretary.

Copy of a telegram dated Chicago, June 22d, 1878, to George Walker, V. P., signed E. M. Barton, secretary.

Copy of a telegram dated Baltimore, July 8th, 1878, to George Walker, vice-president, N. Y., signed N. de Bree.

(Copies of the letters and telegrams referred to by the witness are offered in evidence and marked respectively Brewer's Exhibits Nos. 1 to 13, inclusive, and the original papers are tendered to counsel for Drawbaugh for inspection.)

I also have here in the letter-books to which I have heretofore referred impression copies of the following described letters:

A letter from George Walker, vice-president, dated May 11th, 1878, addressed to G. M. Phelps, esq., superintendent Western Union manufactory, N. Y. Copy on page 408 of letter-book No. 6.

Letter from George Walker, vice-president, dated New York, May 31st, addressed to George M. Phelps, esq., superintendent. Copy on page 44 of letter-book No. 7.

Letter from George Walker, vice-president, dated June 1st, 1878, addressed to R. C. Clowry, esq., assistant gen. superintendent, W. U. Tel. Co., St. Louis, Mo. Copied on pages 55 and 56 of letter-book 7.

Telegram from George Walker, V. P., dated New York, June 7, addressed to E. M. Barton, Chicago. Copied on page 106 of letter-book No. 7.

Copy of letter from George Walker, V. P., dated New York, June 7, 1878, addressed to Enos M. Barton, esq., sec'y Western Electric Manufacturing Co., Chicago, Ill. Copied on pages 113 and 114 of letter-book No. 7.

Another letter from said Walker to said Barton, dated June 11th, 1878. Copied on pages 132, 133 of letter-book No. 7.

Another letter from George Walker, V. P., dated June 14th, 1878, addressed to Thomas A. Edison, esq., Menlo Park. Copied on page 155, letter-book No. 7.

Also a copy of a telegram from said Walker to said Edison, dated June 14th. Copied on page 156.

And another telegram from said Walker dated June 14th, addressed to E. W. Andrews, president American District Telegraph Co., Broadway and 4th street. Copied on page 157.

A letter to S. B. Gifford, esq., supt. Western Union Telegraph Co., Syracuse, N. Y. Copied on pages 174 to 178, inclusive, no signature to which appears in the letter-press copy.

Letter from said Walker to J. V. Belmore, esq., agent, 819 Sixth avenue, New York, dated June 19th, 1878. Copied on page 221.

A letter dated June 22d, 1878, to George M. Phelps, esq., supt. W. U. Tel. Co.'s factory, New York, signed George Walker, V. P., J. R. Beach. Copied on page 240.

A letter from said Walker, dated July 8th, 1878, addressed to M. G. Kellogg, esq., supt. Western Electric Mfg. Co., Chicago, Ill. Copied on pages 307 and 308.

A letter from said Walker, dated July 8th, 1878, addressed to G. N. Phelps, esq., supt. W. U. Tel. Co.'s factory, New York. Copied on page 309.

Copy of a letter or telegram from said Walker, dated July 19th, 1878, addressed to Charles Batchelor, Menlo Park, N. J. Copied on page 368.

A letter from said Walker, dated July 19th, 1878, addressed to N. de Bree, esq., manager Gold and Stock Tel. Co., Baltimore, Md. Copied on page 372.

A letter addressed to Harry Fisher, esq., president Am. District Tel. Co., Baltimore, Md., dated July 19th, 1878, signed George Walker, V. P., J. R. Beach. Copied on pages 385, 386, and 387.

Letter signed same as the above, dated July 20th, 1878, addressed to Thomas A. Edison, esq., Menlo Park, N. J. Copied on page 388.

Copy of a telegram from said Walker, dated July 22d, addressed to George S. Ladd, San Francisco. Copied on page 390.

A letter to said Ladd, dated July 23d, 1878, signed George Walker, V. P., J. R. Beach. Copied on pages 412, 413, and 414.

Letter addressed to J. Merrihew, esq., supt. W. U. Tel. Co., Philadelphia, signed same as last mentioned, dated July 23d, 1878. Copied on page 416.

A letter same date and same signature as last named above, addressed to N. de Bree, esq., agent Gold and Stock Tel. Co., Baltimore, Md. Copied on page 417.

All the letters and telegrams signed by Mr. Walker and described above, except the first one described, are copied in letter-book No. 7.

(Copies of the letters referred to by the witness, taken from the letter-book, are offered in evidence as Brewer's Exhibits Nos. 14 to 35, inclusive.)

I recognize Mr. Walker's signature to all of the letters and telegrams above described, except that to the letter to Enos M. Barton, dated

June 7th, 1878, and copied on pages 113 and 114; that to the letter to S. B. Gifford, dated June 14th, 1878, copied on pages 174 to 178, the signature to which is not shown on the impression copy, and those which as heretofore described are signed George Walker, V. P., J. R. Beach.

Q. 8. Who is this George Walker to whom you have referred, and is he living or dead?

A. He was the vice-president of the Gold and Stock Telegraph Company and died in Washington, D. C., about two or three years ago.

Q. 9. Please look again at the minutes of the executive committee of the Gold and Stock Telegraph Co., referred to in question 5, and state if you find anything further bearing upon the matter called for by that question.

A. I read from the minutes of the executive and finance committee of June 20th, 1878, the following paragraph:

Voted that D. O. Mills of California, now at the Windsor Hotel of this city, be presented on behalf of the executive committee with two carefully prepared Edison transmitters marked "Complimentary."

Also from the minutes of the same committee of July 18th, 1878, the following paragraph:

Voted that the supply of Edison telephone transmitters for the American District Telegraph Company of Chicago be referred to Vice-presidents Walker and Prescott, with power.

(The letter-books, original letters, and telegrams, and the minutes of the executive committee of the Gold and Stock Telegraph Company, referred to by this witness, are here present and are submitted to counsel for Drawbaugh for inspection, with the understanding that the owners of said property will afford every facility hereafter, if necessary, to allow said counsel to inspect the same.)

Direct examination closed.

Cross-examination:

X Q. 10. You have stated that you are secretary of the Western Union Telegraph Co., the Gold and Stock Telegraph Co., and the American Speaking Telephone Co. Will you please state what relations these companies bear one to the other and your connection with each?

A. The Gold and Stock Telegraph Co. is now leased to the Western Union Telegraph Company, and the Western Union Telegraph Co. is a large stockholder in the American Speaking Telephone Co. I have been elected secretary of each of the companies named.

X Q. 11. How long have you been secretary of the Western Union Telegraph Co.?

A. Since July, 1875.

X Q. 12. Have you any personal knowledge concerning the matters and things referred to in the minutes of the executive and finance committee, the several letters referred to, including the press copies?

A. I have no personal knowledge of those matters.

X Q. 13. When did you obtain possession, as custodian, of the sev-

eral records to which reference has been made, and where had said records been kept?

A. On my accession to the offices of secretary of the Gold and Stock Telegraph Co. and of the American Speaking Telephone Co. in March, 1882; prior to that time the records and papers referred to had been in the custody of my predecessors.

X Q. 14. Have you read from the minutes of the executive and finance committee all matters contained therein having reference directly or indirectly to the Edison or other form of carbon telephone transmitter?

A. I have read all of which I have any knowledge or to which my attention has been drawn.

X Q. 15. The same question as to the matters contained in the letter-books Nos. 6 and 7, to which reference has been made?

A. I have read all of those letters and telegrams to which my attention has been drawn as containing matters pertinent to this inquiry, but I have made no thorough examination of the books myself.

Cross-examination closed.

A. R. BREWER.

FEBRUARY 12, 1890.

EXAMINATION OF HOWARD R. BUTLER.

HOWARD R. BUTLER, a witness called in behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit:

Q. 1. What is your name, age, residence, and occupation?

A. Howard R. Butler; age, 33; Yonkers, N. Y.; artist.

Q. 2. What was your occupation in the summer of 1878?

A. I worked for the Gold and Stock Telegraph Company as assistant secretary.

Q. 3. Had you any knowledge of the telephone business then carried on by the Gold and Stock Telegraph Company and the American Speaking Telephone Company?

A. I had.

Q. 4. State generally the business of those two companies.

A. The American Speaking Telephone Company carried on the telephone business under the Gray, Dolbear, and Edison patents. The Gold and Stock Telegraph Company, besides its other business, acted as agent for the American Speaking Telephone Company in putting up telephone lines.

Q. 5. Please state more particularly the business of the Gold and Stock Telegraph Company in respect to the putting up of telephone lines, etc.

A. On application lines were furnished by the Gold and Stock Telegraph Company. These lines were erected, equipped with telephones, and maintained in working order by the company.

Q. 6. Who were some of the officers of the Gold and Stock Telegraph Company?

A. William Orton, president; Geo. B. Prescott and George Walker were vice-presidents; James D. Reid, secretary; George B. Scott, superintendent; George L. Wiley, J. R. Wiley, were in the private-line department. Other officers were E. E. Kendrick, S. M. Taylor, J. C. Massa.

Q. 7. Is George Walker still living?

A. No.

Q. 8. Where is James D. Reid?

A. I understand that he is in Scotland.

Q. 9. What was the private-line department of the Gold and Stock Telegraph Company?

A. It was the department which attended particularly to the construction and equipment and management of printing-telegraph and telephone lines for the use of private parties—that is, they were not for the public use, but solely for the use of the parties between whose offices they were erected.

Q. 10. Please explain more fully what you mean by “they were not for public use.”

A. While all the public were at liberty to make application for private lines and the Gold and Stock Telegraph Company was ready to furnish such service, the right to use the lines belonged only to the applicants.

Q. 11. Give the names, if you can, of some of the officers of the private-line department in the summer of 1878.

A. George B. Scott, general superintendent; George L. Wiley, superintendent; J. R. Wiley.

Q. 12. State, if you know, whether the Gold and Stock Telegraph Company made use of any telephones in its business in the summer of 1878.

A. The Gold and Stock had lines from 195 Broadway to 198 Broadway, from 195 Broadway to corner of Fifth avenue and 23d street, but I do not remember the date of the lines from 198 Broadway.

Q. 13. What telephones did that company use in its business at that time?

A. Both Edison telephones, commonly known as the carbon telephone and magneto-telephones.

Q. 14. Will you describe the Edison carbon telephone which you have mentioned, and state when you first had knowledge of that instrument?

A. The Edison carbon telephone was a transmitting instrument in which the vibrations of the diaphragm act upon a carbon button, thereby causing variations of resistance in the circuit in which the button is placed. I had knowledge of that instrument in June, 1878, but I cannot say when I first had knowledge of it.

Q. 15. Please look at the cut shown at Figure 5, page 601, of Scrib-

ner's Monthly for August, 1878, and state what the cut represents, if you know.

(The witness is here shown volume 16 of Scribner's Monthly from the library of the U. S. Patent Office.)

A. The cut represents an Edison carbon transmitting instrument.

Q. 16. State how closely, if at all, that cut represents the Edison carbon telephones used by the Gold and Stock Company in the summer of 1878.

A. Its general features are the same.

Q. 17. When and under what circumstances did you first have knowledge of the said cut or representation of the Edison carbon telephone shown in Scribner?

A. To the best of my belief I made the drawing on the block from which this cut was engraved. If I did not make this cut I made a similar drawing.

At the request of the witness his examination is suspended until such other time as may be hereafter agreed upon, or until further notice.

Adjourned to Feb. 13, 1890, 10 a. m.

FEBRUARY 13, 1890.

EXAMINATION OF H. R. BUTLER—Resumed.

Q. 18. When did you make the drawing referred to in answer to question 17?

A. I cannot state definitely the exact date on which I made this drawing, but I remember that I was engaged in making illustrations for the "Speaking Telephone, Electric Light, and other Recent Electrical Inventions," a work which was edited by George B. Prescott, and in which this same figure occurs as Figure 303, page 567, second edition, in July, 1878; that I made other illustrations for the same edition, such as Figures 304, page 568, and 305, page 569, 310, page 575, and 311, page 576, and I further remember that on the 4th of July, 1878, I made no less than 4 or 5 of the illustrations for said edition.

Q. 19. From what did you make the aforesaid cuts or drawings?

A. I made them directly from instruments delivered to me for that purpose by Mr. George B. Prescott, electrician of the Western Union Telegraph Company. Figure 5 in the article in Scribner's Monthly Magazine for August and Figure 304 in Prescott's book were made from Edison carbon telephones, I think from some of the earliest forms manufactured by Mr. G. M. Phelps.

Q. 20. Can you state when Prescott's book and Scribner containing the article and cuts to which you have referred were published?

A. My impression is that the Scribner's for August appeared before the second edition of Prescott's work—that the Scribner's appeared about

the middle of July, 1878, and that we had copies of the second edition of Prescott's work in August or September of the same year.

Q. 21. State, if you know, how the Edison carbon telephone came to be used by the Gold and Stock Company.

A. The American Speaking Telephone Company, and the Gold and Stock Telegraph Company, and the Western Union Telegraph Company, having engaged in the telephone business, were on the constant lookout for improved forms of telephone, and an arrangement existed whereby the inventions of Mr. Edison could be acquired, and the experiments of Mr. Edison were carefully watched with a view to acquiring any instruments which he might make, and as soon as the Edison carbon instrument became perfected in his laboratory it was adopted by those companies. I was myself employed to make drawings of the various forms that the carbon transmitting instrument received in his hands. For that purpose I visited Menlo Park early in the summer of 1878, and made many drawings of such forms. A very short time elapsed between the perfection of the Edison carbon transmitting instrument and its adoption on the lines of the Gold and Stock Telegraph Company.

Q. 22. Look at the papers now shown you and state, if you know, what they are, where they came from, and when you first saw them.

A. Five of these papers are taken from the contract files of the Gold and Stock Telegraph Company for telephone lines. The remaining six are order-slips from the files of the secretary of the Gold and Stock Telegraph Company.

First as regards the contracts: No. 1 is a memorandum of service for which there appears to be no contract; service was rendered to Funch, Edye & Company.

(Paper referred to by witness is offered in evidence as Butler's Exhibit No. 1.)

No. 2 is the original contract between James S. Rockwell & Co. and the Gold and Stock Telegraph Company for a telephone line equipped with carbon transmitting telephones, dated June 25th, 1878. I recognize the signature of George Walker, v. p. I also recognize the seal of the Gold and Stock Telegraph Company and the signature of J. D. Reid, secretary.

(Contract offered in evidence as Butler's Exhibit No. 2.)

I wish to note the fact that the last-named exhibit has a letter attached to it addressed to the Gold and Stock Telegraph Company, dated June 26th, 1878, and signed J. S. Rockwell & Company.

No. 3 is the original of a contract between Funch, Edye & Co. and the Gold and Stock Telegraph Company, dated July 1st, 1878, for a line equipped with both telephones and telegraphs. I recognize the signature of George Walker, vice-president of the Gold and Stock Telegraph Company, the seal of the company, and the signature of J. D. Reid, secretary.

(Paper offered in evidence as Butler's Exhibit No. 3.)

The next is a memorandum of service without contract for J. H. Banker, to which is attached a letter to G. L. Wiley, dated January 18th, 1881, with the fac-simile signature of E. E. Kendrick, auditor, stamped thereon; a pink slip signed "G. L. W., May 31st, 1881," also a pink slip signed "E. E. Kendrick, May 28, '81, G. L. W."

(The four papers referred to are attached together and offered in evidence as Butler's Exhibit No. 4.)

The next is a copy of a contract between C. A. Arthur and the Gold and Stock Telegraph Company, dated July 2d, 1878.

(The paper referred to is offered in evidence as Butler's Exhibit No. 5.)

The remaining six papers are orders for telephone service issued by the secretary of the Gold and Stock Telegraph Company, or the assistant secretary, as follows: First, order for telephone-exchange service for Funch, Edye & Co., issued by me, and signed H. R. B., assistant secretary; the next is an order for Edison-telephone service, issued by James D. Reid, secretary; the next is an order for Edison-telephone service for James H. Banker, issued by J. D. Reid, secretary; the next is an order for Edison-telephone service, issued by J. D. Reid, secretary, for C. A. Arthur; the next is an order for Edison-telephone service for Charles L. Wright & Co., issued by James D. Reid, secretary; the next is an order for the health department for Edison telephones and Morse sounders service, issued by James D. Reid, secretary.

(The six papers referred to by the witness are offered in evidence, and marked respectively Butler's Exhibits No. 6, No. 7, No. 8, No. 9, No. 10, and No. 11.)

I recognize all these papers as having been in my custody when secretary of the Gold and Stock Telegraph Company. They were turned over to me (that is, those of them which were issued by J. D. Reid, secretary, or which had been in his custody) by James D. Reid, secretary, when I succeeded him in office. When the Metropolitan Telephone and Telegraph Company succeeded to the telephone business of the Gold and Stock Telegraph Company, these papers were taken to the Greenwich street building, where the Metropolitan Telephone and Telegraph Company had its offices. I remember that when asked to find early contracts and orders for Edison telephones in 1883 I went to the office of the Metropolitan Telephone and Telegraph Company, searched through the papers of the Gold and Stock Telegraph Company that had been turned over to the Metropolitan Telephone and Telegraph Company, which were stored in a closet of the Greenwich street building, and extracted from the files all the paper exhibits, with the possible exception of Nos. 1 and 6, and these, which relate to Exhibit No. 3, were probably included with the latter.

I know these are the papers which I took from the Metropolitan Telephone and Telegraph Company, because they are individually set forth in a receipt given for them to the Metropolitan Telephone and Telegraph Company, dated July 18th, 1883, which is in my handwriting, and a letter-press copy of which I have in my possession.

I also identify the paper which I have in my hand and marked "Exhibit C. L. Wright & Co. contract," with the two attached memoranda, as part of the batch of papers taken from the files of the Metropolitan Telephone and Telegraph Company, as above recited. I recognize the signature of George Walker, vice-president, the seal of the Gold and Stock Telegraph Company, and the signature of James D. Reid, secretary, in the C. L. Wright & Co. exhibit.

(The foregoing paper exhibits, marked Butler's Exhibits Nos. 1 to 11 inclusive, and C. L. Wright & Co. contract, are introduced in evidence with the understanding that at the final determination of this proceeding they are to be returned to the owner.)

Adjourned until Saturday, 15th, 1890, 10 a. m.

NEW YORK, *February 17, 1890, 10 a. m.*

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF H. R. BUTLER—Resumed.

(By consent objection is now entered by counsel for Drawbaugh to the document marked Butler's Exhibit No. 5, as said exhibit is and purports to be but a copy unverified and the original not accounted for.)

Q. 23. State, if you know, where the original of Butler's Exhibit No. 5 is, and also state your recollection as to the date when and the person by whom said copy was made.

A. I do not know where the original is, nor do I know when the copy was made. I believe the copy to have been made for the convenience of the secretary, and I think the signatures of George Walker, C. A. Arthur, and J. D. Reid, which have under them the word "copy" underscored, were made by me as a memorandum to show how the original contract was executed.

Q. 24. State, if you know, the character of instrument referred to in James S. Rockwell & Co.'s contract, Butler's Exhibit No. 2, as a "carbon transmitting telephone."

A. I know it to have referred to an Edison carbon transmitter.

Q. 25. Were any other telephones than Edison carbon transmitters used by the Gold and Stock Company during 1878 designated by the term "Edison" or "carbon transmitters?"

A. None that I ever heard of.

Q. 26. State whether or not during the year 1878 the Gold and Stock Company sold or leased its telephones to its customers.

A. It was the policy of the Gold and Stock Telegraph Company to lease telephones, except to the Government, to scientific institutions or for export.

Q. 27. State how said company caused its telephones to be used and the method of putting out telephones in the private-line department.

A. Applications for telephone lines were either made to the secretary or referred to him, or were secured by canvassers, who went about soliciting for the company. The applicants were furnished with an estimate generally stating the rate per month for the service which they desired. They were asked to sign a contract in duplicate describing the service and the terms. One copy was kept by the secretary. The secretary then issued an order on the private-line department, which order went to G. L. Wiley. When the service was in working order it was marked under the word "finished" with the date from which charges were to be made, signed by Wiley. The order then went to the collector, who made his entries, signed it, and returned it to the secretary.

Q. 28. State whether or not you have any knowledge of requests by customers of the Gold and Stock Company for Edison carbon telephones, or of offers by said company to sell or lease such telephones to customers, and, if so, state what that knowledge is, and when such offers or requests were made, limiting your answer to the operations of the company prior to the 1st of August, 1878.

A. Many applications were made. By reference to my letter-book for 1878, designated volume 1, covering a period from July 17th, 1878, to March 25th, 1879, I find that estimates were furnished for Edison-telephone service as follows: July 18th, 1878, estimate for Murphy & Nesbitt, volume 1, page 3.

(Copy of the estimate referred to is offered in evidence as Butler's Exhibit No. 12.)

Next, July 19th, 1878, volume 1st, page 6, a letter containing estimates, to E. W. Todd & Co., signed George B. Scott, superintendent, by Howard R. Butler.

(Copy of letter offered in evidence as Butler's Exhibit No. 13.)

July 19th, 1878, volume 1st, page 7, a letter to George W. Hageman, esq., signed George B. Scott, superintendent, per Howard R. Butler.

(Copy of letter offered in evidence as Butler's Exhibit No. 14.)

July 19th, 1878, volume 1st, page 8, letter to J. A. Bostwick, esq., signed George B. Scott, per H. R. Butler.

(Copy of letter offered in evidence as Butler's Exhibit No. 15.)

July 19th, 1878, volume 1, page 9, L. A. Milbank, esq., signed George B. Scott, superintendent, per Howard R. Butler.

(Copy of letter offered in evidence as Butler's Exhibit No. 16.)

Volume 1, page 11, a letter dated July 20th, 1878, addressed to C. C. Yeaton, esq., signed George B. Scott, per H. R. Butler.

(Copy of letter offered in evidence as Butler's Exhibit No. 17.)

Volume 1, page 13, a letter dated July 24th, 1878, addressed to J. F. Gormley, esq., canvasser, signed George B. Scott, superintendent, per H. R. Butler.

(Copy of letter offered in evidence as Butler's Exhibit No. 18.)

Volume 1, page 15, a letter dated July 25th, 1878, addressed to Jarvis & Co., signed George B. Scott, superintendent, per H. R. Butler.

(Copy of letter offered in evidence as Butler's Exhibit No. 19.)

The originals of these letters were either delivered to canvassers or sent direct to the party, and a note to that effect made by me on the page of the letter-book. Thus I noted that the Todd letter was delivered to J. Berrian Greene, whom I remember to have been one of the canvassers at that time. The Hageman letter is marked "delivered to address," which means sent to the party direct. The Bostwick letter was delivered to J. C. Wood, whom I remember to have been a canvasser at that time. Milbank letter was delivered to address; the Yeaton letter is marked "delivered to address;" the Bostwick letter is marked "delivered to J. C. Wood;" the Gormley letter is marked "delivered to address." To the best of my belief these letters were delivered in the usual course of business about the time they were written and dated. Those marked "delivered to address" were, to the best of my belief, mailed, as I remember that the note "delivered to address" was used by me simply to distinguish those sent to the parties direct from those delivered to canvassers, on which latter subsequent claims for commissions were likely to arise. These letters were the official offers of the Gold and Stock Company for Edison-telephone service. The prices quoted were estimated by me in accordance with the fixed scale of rates which had been established by the company and which I had been instructed to follow. In making up these estimates the Edison telephone was charged for at so much for an office containing one instrument per annum, including maintenance and including all the accompanying apparatus required in conjunction with the Edison telephone, such as battery, induction-coil, and signaling apparatus. The price per annum for the outfit of an office equipped with a single Edison instrument was \$40. It was my custom to make a letter-press copy of the figuring on the same page in my letter-book with the copy of the letter to the party for whom the estimate was made. In the case of the letters to Todd, Hageman, Bostwick, Milbank, Yeaton, Gormley, and Jarvis these letter-press copies of the figuring occur, and in all of those cases the established rates of \$40 per annum were used.

Q. 29. In whose handwriting are the several letters and estimates to which you have referred, and when were the letters written and the estimates made?

A. They are all without exception in my handwriting. They were written on the days they were respectively dated. The estimates were made about the same time, that is, just before writing the letters, as the result of the calculations had to be set forth in the letters.

Q. 30. Did the estimates at the bottom of the several letters appear in the original letters sent to the parties addressed?

A. They did not.

Q. 31. Please read the figuring at the bottom of one of those letters.

A. I read from the bottom of page 11 under letter to C. C. Yeaton, esq., Butler's Exhibit No. 17:

Greenville to Jersey City, 4 miles.....	100.00
Cable.....	300.00
N. Y. $\frac{3}{4}$ miles.....	18.75
2 offices.....	36.00
	454.75
$\frac{1}{2}$	151.58
2 sets Edison.....	80.00
	12)\$686.33
	57.20

Q. 32. Please explain these estimates.

A. As explained above, the words "two sets Edison, 80 dollars," refer to the complete equipment of two offices containing Edison carbon transmitting instruments, such as I have already described. The rest of the figuring alludes to the cost of telephone line outside of New York, to cable across the Hudson River, to that part of the line inside of New York limits, and to maintenance other than that of the Edison telephones themselves. The total is divided by 12 to obtain the rate per month.

Q. 33. Do you know whether the Gold and Stock Company made any public exhibitions of Edison carbon telephones in the summer of 1878? If so, state what those exhibitions were and when and where they were made.

A. There was an exhibition line running between rooms in the Western Union building, No. 195 Broadway, where many people were shown the Edison carbon telephone. I was familiar with that line and often operated it myself. There was another line which I believe ran from 195 Broadway to corner of 23d street and 5th avenue, to which people desiring to see the working of the telephone were referred. I had very little to do with that line, but I believe it to have been equipped with Edison carbon telephones and Phelps duplex receivers. I believe that both these lines were in operation in the month of June, 1878, but I have no means at my command of fixing the exact date.

Q. 34. Look at the several exhibits here present and state whether you recognize them, and, if so, what they are.

A. I recognize them to be Edison carbon telephones, also called Edison transmitters, or simply carbon telephones.

(The exhibits shown the witness were heretofore offered in evidence as Batchelor's Exhibits Nos. 1 and 2, Edison's Exhibits Nos. 1 and 3, and Chandler's Exhibits Nos. 7 and 8.)

Examination of H. R. Butler suspended.

NEW YORK, *February 18th*, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF HOWARD R. BUTLER—Resumed.

Q. 35. Please examine Edison Exhibit No. 3 more fully and state if you recognize any peculiar feature about the exhibit and what it is.

A. It has a special feature which was not generally applied to the carbon telephone for cutting the telephone in and out of circuit. I think it is a device of Mr. Bentley of Philadelphia. I refer to the key attached on the outside of the cast back.

Q. 36. Look at the remainder of the exhibits and state if you recognize any of them as of the make or style of instrument made by any particular parties, and, if so, by whom and when you first saw such instruments.

A. I can only answer generally. The instrument marked Batchelor's Exhibit No. 2 I take to be a Phelps instrument, because of the arm attachment. I do not know when I first saw an instrument of this character; but I know I saw arm-attachment instruments resembling this in all particulars, except the capstan adjustment-screw, in July, 1878. I believe all the others, Batchelor's Exhibit No. 1, Chandler's Exhibit No. 8, Edison's Exhibit No. 1, and Chandler's Exhibit No. 7, to have been made either by Edison or the Western Electric Manufacturing Company of Chicago, because of their flat backs; but I am not absolutely certain.

Q. 37. Can you state when you issued the order for telephones signed with your initials, H. R. B., Butler's Exhibit No. 6?

A. I cannot state exactly, as it does not appear to be dated by me.

Q. 38. Can you fix approximately the date when, as you say in answer 23, you made the memorandum on your Exhibit No. 5?

A. I have no means of fixing the date; it may have been at the beginning of the contract, or it may have been at the end of the contract, which endured for 3 years. The contract was with a Government official, and the original may have been called for by said official after the contract was terminated; I cannot say.

Q. 39. State, if you can, how the telephone lines referred to in your 33d answer were equipped.

A. They were equipped at each office with an Edison carbon transmitting telephone, connected to the primary circuit of an induction-coil, with a receiver attached to the secondary circuit, a battery in the primary circuit, and a signaling apparatus.

Q. 40. Have you any knowledge further than you have already stated concerning the sales or offers to sell Edison carbon telephones by the Gold and Stock Company during the summer of 1878?

A. Yes.

Q. 41. Please state what that knowledge is and when the sales or offers to sell were made.

A. An offer to sell to Captain H. W. Howgate was made in July, 1878.

Q. 42. How do you fix this date?

A. I fix this date by a letter, page 253, Scott's letter-book L, June 11th, 1878, to August 24th, 1878, the letter dated July 23d, 1878, addressed to Captain H. W. Howgate and signed George B. Scott, superintendent, the letter-press copy of which is now before me, the original of which was written by me, with the exception of the signature George B. Scott, superintendent, and possibly the word "local" in parenthesis.

Q. 43. Give the date, if you can, when you wrote the original letter.

A. I have no reason to believe that it was not on the day the letter is dated.

Q. 44. Is that your best recollection concerning it?

A. That is my best recollection concerning it.

Direct examination closed.

Cross-examination:

X Q. 45. For how long a period did you occupy the position of assistant secretary in the Gold and Stock Telegraph Company?

A. I cannot state definitely without referring to the books of the company. I think I began June 24th, 1878, to receive pay from the company; I was assistant secretary until made secretary, which I think was in the autumn of 1879.

X Q. 46. What was your occupation previous to your appointment as assistant secretary?

A. Assistant in the department of electricians for the Western Union Telegraph Company, under George B. Prescott.

X Q. 47. During the summer of 1878 what were your duties as assistant secretary of the Gold and Stock?

A. To make estimates for telephone lines and other service, and in general to assist in the development of the business of the company, especially as devoted to telephony, acting under the instructions of George Walker, George B. Scott, or James D. Reid.

X Q. 48. When did the American Speaking Telephone Company begin business?

A. It was started before I began my connection with the Gold and Stock Telegraph Company.

X Q. 49. Please explain the relation subsisting between the American Speaking Telephone Company and the Gold and Stock Company in the summer of 1878.

A. The Gold and Stock Telegraph Company was agent of the American Speaking Telephone Company and constructed the lines and attended to the general business of exploiting the telephone for the American Speaking Telephone Company.

X Q. 50. Who were the officers of the American Speaking Telephone Company?

A. I cannot say without referring to the book. I think they were

about the same as the officers of the Gold and Stock Telegraph Company, except that I remember that Samuel S. White and E. Andrews were directors.

X Q. 51. You have stated in answer to question 4 that the American Speaking Telephone Company carried on the telephone business under the Gray, Dolbear, and Edison patents, and that the Gold and Stock Telegraph Company acted as agent for the American Speaking Telephone Company in putting up telephone lines. Will you please explain what patents or inventions by Gray, Dolbear, and Edison you referred to in this answer?

A. I do not know that any patents were actually issued at the time I was first employed by these companies, but understandings existed between these companies and the inventors whereby the inventions of Gray, originally controlled, I believe, by the Harmonic Telegraph Company, were, so far as they applied to telephone matters, the property of the American Speaking Telephone Company—that is, they had the right to use the inventions. As regards Dolbear, negotiations were being carried on and may have been perfected at that time for the use of his inventions. An arrangement also existed with Mr. Edison. These inventions covered a variety of telephonic apparatus and principles, including transmitters.

X Q. 52. Please explain more fully the nature of the arrangement concerning Mr. Edison's inventions, what those inventions were, and by or between whom the arrangements were made.

A. I think the arrangement with Edison was set forth in a contract under which Edison received salary in the nature of a retainer, giving the option in return to purchase from him his inventions pertaining to the telephone, and, for all I know, other inventions. I do not know whether this contract was between Edison and the Western Union, or the Gold and Stock, or the American Speaking, or whether they were not all parties to it. I should have to refer to the contract.

X Q. 53. Is it not a fact that all the companies mentioned in your last answer were interested, directly or indirectly, in the Edison contract referred to? If so, please explain as fully as you are able the relations of the three companies with respect to the Edison inventions, confining your answer to the year 1878.

A. They were doubtless all interested, for apart from the relation of agent of one company to the other I am very certain that at that time the Western Union owned stock in the Gold and Stock Telegraph Company and the Gold and Stock Company owned stock in the American Speaking Telephone Company.

(Owing to the engagements of the witness and his unwillingness to remain longer, his further examination is suspended, with the understanding that he will hereafter be recalled and the examination resumed at a time and place to be agreed upon, or of which due notice will be given to counsel for Drawbaugh.)

Adjourned until 1.30 p. m.

MARCH 17TH, 1890, 1.45 P. M.

CROSS-EXAMINATION OF H. R. BUTLER—Resumed.

X Q. 54. Who were the officers of the American Speaking Telephone Company in the summer of 1878 ?

A. I am not certain, but think George Walker was either president or vice-president and James D. Reid secretary.

X Q. 55. When was the American Speaking Telephone Company organized and what relation did it bear to the Gold and Stock and Western Union Companies ?

A. I cannot give the date of formation. It was previous to my employment. I believe the Gold and Stock owned stock in the American Speaking Telephone Company and acted as agent for the American Speaking Telephone Company in putting out the telephones manufactured under the patent rights of the American Speaking Telephone Company. The Western Union owned stock in the Gold and Stock Telegraph Company, and the Gold and Stock Company employed the superintendents and managers of the Western Union Telegraph Company as its agents for commercial news and subsequently for telephone purposes.

X Q. 56. In your answer to question 21 you have stated that the experiments of Mr. Edison were carefully watched. By whom were they watched ?

A. By the Western Union. Mr. Edison showed his telephone in the rooms of the electrical department of the Western Union when George B. Prescott was electrician. Under the direction of George B. Prescott I was sent to Menlo Park, where Mr. Edison had his factory, to make drawings of all forms of the Edison carbon transmitter which he devised. These I exhibited to Mr. Prescott. I believe the Western Union to have kept acquainted with all of Mr. Edison's work in this regard.

X Q. 57. Were the drawings referred to made for Mr. Prescott individually or in his official capacity ?

A. Many of them appeared subsequently in Mr. Prescott's book, but I never ascertained whether this book was published by him privately or by and for the benefit of the company.

X Q. 58. From whom did you receive compensation for time and expenses incurred in making those drawings ?

A. I think from the Gold and Stock Telegraph Company.

X Q. 59. When were you informed that the Edison instruments were perfected ?

A. As soon as we considered the Edison instrument perfected we ordered them manufactured. The only information which I received of the perfection of the instrument was in the fact of these orders.

X Q. 60. Were you charged with the duty of ordering the instruments and did you determine when they were perfected ?

A. I was not charged with the duty of ordering, nor did it fall to me to decide when the instrument was perfected.

X Q. 61. Is your statement in answer to question 21, concerning the perfecting of the Edison instrument, based merely upon an inference drawn from the fact that Edison instruments were ordered? If not, state fully your information on this point.

A. No; my information was not drawn from the orders, for I knew the instrument personally and its perfection.

X Q. 62. Then you determined for yourself, did you, as to the perfection of the instrument?

A. I certainly had my own opinion that the instrument was a perfect one.

X Q. 63. Did you arrive at this conclusion before or after the order was given by the Gold and Stock Company?

A. I should say before, because I believe myself to have witnessed some of the earliest experiments with the perfected instruments.

X Q. 64. What instruments do you refer to in your last answer as the perfected instruments?

A. Instruments of the general construction shown in Prescott's book, figure 303, in the Scribner's for August, 1878—that is, instruments similar to those shown me already in this examination.

X Q. 65. If the Edison instruments were perfected sometime prior to the giving of an order for their construction, why was the order delayed?

A. I am not acquainted with the dates at which the orders were given unless I should refer to the records of the company. I do not think there was much delay in giving the orders.

X Q. 66. Referring to Butler's Exhibit No. 1, please state, if you know, in whose handwriting it is and for what purpose it was made.

A. I take it to be in the handwriting of one of my clerks. It is a memorandum of telephone-exchange service, probably made to be placed with the telephone-exchange contracts, though I notice that the service is contracted for in contract marked "Butler's Exhibit No. 3," where it is distinctly specified that the office, 27 South William street, should be connected with the telephone-exchange.

X Q. 67. Will you please explain, if you can, the significance of the indorsement "service without contract" and "memorandum of tel. ex. service for which there is no contract?"

A. I presume when the contracts for exchange service were separated from those of private line this memorandum was used to make the telephone-exchange files show a service which would otherwise not be accounted for, and the original contract was probably kept in the files of private lines. This form of blank was evidently used for convenience' sake, and under the words "service without contract," indorsed on the outside, there is an entry made, "This service is expressed in No. 286 private line."

X Q. 68. The contract referred to is marked on its face "Contract No. 1." Please state to what series the number belongs.

A. I presume to telephone-exchange series, as the private-line-service contract has a much higher number.

X Q. 69. Were the contracts of the telephone series numbered consecutively, beginning with Funch, Edye & Co.?

A. I cannot say without resorting to the books of the company.

X Q. 70. Will you please explain fully the methods in practice during the summer of 1878 of numbering telephone contracts and other papers and documents relating to telephone matters? I refer to the practice adopted or pursued by the Gold and Stock and the American Speaking Telephone Companies with which you were connected or associated.

A. There was one set of numbers for private line, and where these lines were first equipped with printers and afterwards with telephones the numbers were not changed—*i. e.*, the private-line serial numbers included both classes of service, but when the telephone-exchange was established separate records were instituted having serial numbers of their own. These serial numbers were probably not applied until the number of contracts became large. These were the serial numbers of the secretary's department where the contracts were kept. Orders issued by the secretary on the private-line department received progressive numbers. These were afterwards changed to alphabetical series. When the service was finished by the private-line department a record-number was given.

X Q. 71. When was the series for private lines begun, to what papers was it applied, and for what purpose?

A. It had been running several years before I came to the Gold and Stock Company. It was applied to the original contracts, and for the purpose of locating the contract itself in the files and also of the firm to its place on the contract ledger.

X Q. 72. Were these numbers consecutively applied to contracts in the order of their date?

A. Not always; contracts were entered, at least by me, in batches, and renewals often went under the old numbers.

X Q. 73. When was the telephone-exchange series first applied, to what papers, and for what purposes?

A. I cannot say when the series was first inaugurated. I do not think the numbers were applied until after the printing instruments were dispensed with, and they were then applied only to telephone lines which connected an office with a central office of the telephone-exchange. They were applied for the same purpose as the serial numbers of the private-line contracts.

X Q. 74. When was the series of numbers first applied to orders on the private-line department?

A. I remember now there were two sets of orders issued by the sec-

retary upon private-line department. These took progressive numbers. They were known as orders for private line and orders for telephones. The orders for private line had been running for some time before I became connected with the company. Orders for telephones were instituted in the spring or early summer of 1878.

X Q. 75. How were the orders distributed into these two classes?

A. As a general rule orders of both classes were issued for a private line equipped with telephone, both recounting the entire service. The private-line orders and the telephone orders were separated and put in their respective files by the secretary.

X Q. 76. When an order was made out, how did you determine in which series, private-line or telephone order series, it should receive its number?

A. When the order was for telephones without lines it received only a telephone order series number. When the service was a private line equipped with telephones the order for the private line did, I believe, receive a private-line series number, and a separate order was issued for the telephones, which received the telephone series number.

X Q. 77. When was the alphabetical series introduced and by whom?

A. The alphabetical series was introduced by me for the purpose of simplifying the business. I worked at it at my leisure for a long time and cannot say when it was introduced.

X Q. 78. When was the record-number series adopted, to what documents was it applied, and for what purpose?

A. It was introduced simultaneously with the progressive numbers for each series of orders. It was applied to the orders by the private-line department as reference-number to the books kept in that department.

X Q. 79. Were there any books kept in which the documents belonging and numbered in any or all the several series referred to were entered consecutively in their chronological order? If so, please state the official designation of such record.

A. There were. First, the private-line contract-book, in which a full description of the line was entered, the information being taken from the contract; these were entered in the order of the contract series number. When the order-blanks returned to the secretary the date of the finished service was posted into this book. A similar book was kept for telephone-exchange lines. I do not know that any record-books were kept of orders by the secretary until the alphabetical series was established, when a record-book was kept for private lines and another for telephone-exchange lines. It was the custom to enter the contracts in batches, so that I do not believe the order to be strictly chronological.

X Q. 80. Referring to Butler's Exhibit No. 2, please state to what series, if any, the numbers "2689" and "4," indorsed above the word "contract," belong.

A. I do not know.

X Q. 81. Referring to Butler's Exhibit No. 3, please state to what series, if any, the numbers 2,689, No. 9, erased, and No. 10, belong.

A. I do not know.

X Q. 82. Referring to Butler's Exhibit No. 5, I call your attention to the following numbers appearing on the back, and ask you to explain to what they refer: "No. 287," "No. 3," "No. 2689," "No. 3;" on a slip pasted at the top "No. 102 P. L.," and beneath said slip "No. 28."

A. I think No. 28 is the original number of the contract; No. 102 P. L. is probably the serial number of some series to which this was subsequently transferred. The other numbers I do not know about. I do not think they have reference to the record books of the Gold and Stock Telegraph Company.

X Q. 83. I notice attached to Butler's Exhibit No. 4 two memoranda on pink paper and one letter on blue paper. Were those papers attached to the paper on which the notary has made an indorsement when you had charge of that last-named paper?

A. I do not know, but suppose they were.

X Q. 84. Upon the back of this exhibit I find the numbers "391," "2689," "No. 1;" on a slip pasted on the back "No. 244 T. L.," and beneath said slip "No. 391." Will you please explain the significance of these numbers?

A. I presume No. 391 and No. 244 to be series numbers of either the Gold and Stock Telegraph Company or the Metropolitan Telegraph and Telephone Company. I do not know what the other numbers refer to.

Adjourned to Tuesday, March 18th, 1890, 10 a. m.

NEW YORK, NO. 195 BROADWAY,
March 19th, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

CROSS-EXAMINATION OF H. R. BUTLER—Resumed.

X Q. 85. In your testimony you have made mention of three series or sets of order-slips. Will you please explain the differences between these several series; also whether these series have a separate serial number?

(Question objected to as indefinite and calculated to mislead the witness.)

A. My recollection, not having had the opportunity to refresh my memory by examining the records of the company, is that there were three different order-blanks used, all issued by the secretary. The point on which I am uncertain is as to whether there were three or two serial lists. When the alphabetical series were established I remember keeping two alphabetical series, one for the private line and the other for the telephone-exchange line. Prior to that there may have

been three. These orders differed by being some for private line, some for telephone, and some for telephone-exchange line. But I must decline to testify as to the series numbers unless I have opportunity of refreshing my memory by examining the books of the company.

X Q. 86. My inquiry is addressed to your present personal knowledge, and not with a view of ascertaining what the books may show. With this understanding, please answer the question more fully, if you are able.

(The above objection is repeated, the question being indefinite in that the series or sets of order-slips referred to are not specified, and the question does not clearly indicate what series or sets of orders is referred to.)

A. No, I cannot recall the method of applying serial numbers prior to establishing the alphabetical series, except that I know that it was then not alphabetical; that the order-blanks were of different colors; that serial numbers were used, and that I have a general impression that there were separate lists, but I may be wrong.

X Q. 87. During the examination of witnesses in this cause, the documents marked Butler's Exhibit Nos. 6 to 11, inclusive, have been sometimes referred to as order-slips and sometimes as order-blanks. Please state what they were called in the summer of 1878.

A. I am sure that the words "orders," "order-blanks," and "order-slips" would have been understood at that time to have meant the same thing, namely, such slips or blanks as the exhibits mentioned.

X Q. 88. Did these blanks originate in the secretary's office?

A. They did.

X Q. 89. When the alphabetical series was adopted by you were the slips which had been filled out previous to the adoption of that series given a new serial number or marking?

A. They were for convenience' sake without disturbing the original numbers.

X Q. 90. Where on the exhibit-slips referred to was the secretary's serial number entered?

A. Opposite the words "Prog. No." and under the word "Approved." I think that Mr. Reid also entered the serial number of the order at the head of the order-blank in place of the contract number for some reason unknown to me.

X Q. 91. What reason have you for stating that the true contract number was not entered?

A. I judge so because it appears on many of the exhibits mentioned, and also I remember that there was much trouble in deciding about serial numbers and contract numbers, all of which led to the establishment of the alphabetical series. Then, too, many telephones were ordered to go on lines already contracted for, and they, of course, did not appear in the original contract.

X Q. 92. Please look at Butler's Exhibit No. 11 and state, if you can,

whether or not the alphabetical series had been begun before the 14th of August, 1878.

A. I don't think it had.

X Q. 93. After the alphabetical series had been begun did you or was it customary to indorse both the serial number of the progressive series and the alphabetical number of the alphabetical series? In other words, were the slips marked with both serial numbers?

A. They may have been during the time when we were working up the alphabetical series, but after that was thoroughly established the old serial number was abandoned.

X Q. 94. Was the old serial number abandoned before the alphabetical series was established?

A. I remember no interval when there was no serial number, though some orders may have been issued which, through inadvertence, received no serial number.

X Q. 95. You say there may have been some cases in which no serial number was given. Do you know at present of any such instances?

A. I do not.

X Q. 96. Please state when, where, and for what purpose you obtained the papers referred to in your 22d answer.

A. In 1883 I obtained these papers from the Metropolitan Telephone and Telegraph Company. Some question had arisen about early contracts of the Gold and Stock, and I was appealed to as having been familiar with the record. I believe it was for the purpose of ascertaining the date of the commencement of the Edison telephone business.

X Q. 97. At whose instance did you make this investigation?

A. That of the attorney of the American Bell Telephone Company, Mr. W. W. Swan.

X Q. 98. Have you heretofore made any report or given any evidence concerning the early use of the Edison telephone?

A. I made an affidavit on this subject, I believe, in 1888. I was also called on for information, I believe, in 1883, but never have testified on this subject before.

X Q. 99. By whom were you called upon for information in 1883?

A. By Mr. Swan at the time I looked up the exhibits which I have put in.

X Q. 100. In whose possession have the exhibits and papers referred to been since you obtained them from the Metropolitan Company in 1883?

A. I presume in Mr. Swan's possession.

X Q. 101. Did you turn them over to Mr. Swan? if so, when?

A. I do not know that I personally turned them over to Mr. Swan, but I know that they were turned over to him on July 18th, 1883, because I have in my possession a letter-press copy of a receipt given to the Metropolitan Telephone and Telegraph Company for them signed by Mr. Swan, dated July 18th, 1883, which receipt is in my handwriting.

X Q. 102. Please state fully the circumstances attending the transfer of those documents and the giving of the receipt referred to.

(The notary is requested to note the fact that a paper purporting to be, or rather represented to be, the affidavit made by this witness in 1888 has, at the witness's request, been tendered the latter by counsel for the Patent Office and that the witness is reading the same.)

Counsel for the Patent Office states that the request of the witness was made and complied with just previous to the last question.)

A. Having told Mr. Swan that the records of the Gold and Stock Company would show the date, and having been asked if I could find those records, I went to the Metropolitan Telephone and Telegraph office in the Greenwich street building and searched through the papers of the Gold and Stock Telegraph Company, which were then in a closet in that building, found the packages of contracts and orders, and extracted these from their places and saw that they were turned over to Mr. Swan.

X Q. 103. Were you given to understand why the records were turned over to Mr. Swan, or for what purpose he wished to obtain possession of them?

A. I knew that he wanted to ascertain the earliest dates of use and whether the use was prior to some date, but I do not remember being told specifically about how the information was to be used. I presume it was for this case.

X Q. 104. Was the name of Drawbaugh mentioned at the time, and what was the date prior to which you were requested to find evidence of use of the Edison telephone?

A. I can't remember when I first heard about the Drawbaugh question. I think the date mentioned was July 26th, 1878.

X Q. 105. I did not inquire as to when you first heard of Drawbaugh, but whether Drawbaugh's name was mentioned in connection with that search conducted by you in 1883.

A. While I know that Drawbaugh's name was mentioned in answer to inquiries which I made in 1888, I do not remember whether it was mentioned in 1883.

X Q. 106. Will you please designate all the documents which you say were turned over to Mr. Swan in 1883.

A. I turned over to Mr. Swan all the papers which I have put in evidence, marked Exhibits No. 1 to No. 11, inclusive, and Exhibit C. L. Wright & Co. contract, with the possible exception of Butler's Exhibit No. 1 and Butler's Exhibit No. 6, as stated in my answer to question 22, and these were probably included with Butler's Exhibit No. 3, to which they refer.

X Q. 107. How much time did you give in the searching for evidence in 1883?

(This question is objected to and all questions relating to the same matter as improper cross-examination, and as being irrelevant and immaterial.)

A. I don't remember how much time. It was a very short matter, having once found the records of the Gold and Stock Company in the store closet, to take out from their places these early contracts and orders.

X Q. 108. Were these the only documents found bearing on the subject?

A. They were all that I could find. Of course there were books of various descriptions which referred to the same matter, but which I did not take.

X Q. 109. Did you make any written statement or execute any affidavit concerning the subject investigated in 1883 at or shortly after the time you made such investigation?

A. I do not remember to have made any affidavit in 1883, but I do remember that I corresponded upon the subject.

X Q. 110. What was your occupation in 1883 at the time you made this search?

A. I was a member of the firm of Pope, Edgecomb & Butler, law firm.

X Q. 111. Were you at that time directly or indirectly connected or interested with any of the telegraph or telephone companies referred to in your testimony?

A. Off and on we did business for several of these companies.

X Q. 112. Did you prepare the affidavit which you say you executed in 1888; if not, who did prepare it?

A. I stated what I knew to Mr. Swan, and he either put it or had it put in the form of an affidavit.

X Q. 113. Did you make any further investigations at this time concerning the subject of your affidavit?

A. Yes; I declined to sign any affidavit until I had refreshed my memory by referring to the records, and for that purpose I remember I went to the office of the Metropolitan Telephone and Telegraph Company and looked over the books which I had formerly kept.

X Q. 114. Did you also at that time inspect the documents which were turned over to Mr. Swan in 1883 and are here in evidence?

A. I do not remember that I did.

X Q. 115. When did you procure the documents from Mr. Swan?

A. When called as a witness in this examination I requested Mr. Swan to let me have these papers and he turned them over to me a few weeks ago.

X Q. 116. In what connection was Drawbaugh's name mentioned about the time of the execution of the affidavit in 1888?

A. I understood in a general way about the Drawbaugh case, but cannot remember any particular conversation on the subject.

X Q. 117. Did not Mr. Swan tell you for what purpose the affidavit was to be used or where it was to be filed?

A. I presume he did if I asked him, but I do not remember.

X Q. 118. Will you please explain why the Exhibit No. 1 is marked "Contract No. 1," and Exhibit No. 3, which you have stated is the original contract, is marked "Contract No. 286?"

A. Because No. 286 is in the private-line series and No. 1 is in the telephone-exchange series. So far as the original contract Butler's Exhibit No. 3 refers to a private line, so far the serial number 286 is applied to it, but so far as it covers a telephone-exchange service the serial number 1 applies. It was impossible, of course, to file the original contract in the files of both series; hence a memorandum had to be used for the telephone-exchange series. The best blank for that purpose was, perhaps, this blank, although it says "Service with out contract;" therefore it had to be indorsed "This service is expressed in 286 private line."

X Q. 119. Had the telephone-exchange service been commenced and the system of serial numbers been inaugurated at the time Butler's Exhibit No. 3 was executed?

A. I believe the telephone-exchange to have been inaugurated about the time this contract was made, namely, July 1st, 1878. I remember it to have been equipped with both printers and telephones at the start, and I doubt whether it was in operation on July 1st, though I think we had the idea of the exchange at that time.

X Q. 120. Can you state positively when the memorandum Butler's Exhibit No. 4 was prepared?

A. I cannot.

X Q. 121. Is it not possible that some of the written matter appearing upon the face of that exhibit may have been added at a later date than other written portions?

A. It is certainly possible.

X Q. 122. Was it not the practice to add from time to time to memorandum-slips such as Exhibit 4 items that had been omitted in the first preparation of the memorandum, or were they invariably completed as to all items called for by the printed titles?

A. It may have been done, but I should not call it the practice, and I can recall no instance of it. Such corrections and additions would be more likely to have been made on the ledger in which the contracts were posted. Extensions of time were, as a rule, indorsed on the contracts, and if changes were then made they would appear in the indorsement. As regards memoranda of contracts they were, as a rule, treated in the same way as contracts.

X Q. 123. Is Exhibit 4 a memorandum of a contract?

A. This form was made out for cases where there was no contract. In the case of Exhibit 4, the reason why there was no contract was because the service was dead-head, or free.

(The latter part of the answer objected to as not responsive.)

X Q. 124. I note on the memoranda referred to, on the line marked "Date completed," are two indorsements, as follows: "No. 1, June 29;

No. 2, April 13." Were both of said indorsements made at the same time?

A. I presume they were. No. 1 refers to the date the Edison telephones were put in, and No. 2 to the date the call-bells were put in, as I presume this memorandum not to have been made before the service was complete. I see no reason why both these entries should not have been made at the same time, but I have no recollection on the subject.

X Q. 125. Referring to page 3 of your letter-book, from which Butler's Exhibit No. 12 purports to have been copied, the numerals 33 after the dollar-mark are written in in lead-pencil, and the words "July 27 reduced to 30" appear to have been written in. Will you please state by whom this insertion and addition was made?

A. I believe both to have been made by myself.

X Q. 126. Referring to Butler's Exhibit Nos. 12 to 19, inclusive, and the originals from which they were copied, please state which, if any, of the lines referred to in said exhibits were put up or equipped with Edison telephones prior to the 1st of August, 1878.

A. I cannot answer without referring to the records of the company.

X Q. 127. Do the letters, of which copies have been put in evidence, Exhibits 12 to 19, indicate in any way that the lines there referred to were actually equipped?

A. The letters were offers to supply service, not records of service supplied.

X Q. 128. At the time these letters purport to have been written did the Gold and Stock Company have on hand a sufficient number of Edison carbon telephones to have filled the contracts at once had they been accepted? I refer to the offers of service contained in Exhibits 12 to 19, inclusive.

A. I cannot answer without looking at the records of the supply department.

X Q. 129. Is it not a fact that during the period covered by those letters you were fully aware that if those offers had been accepted the service could not have been established at once, because the Gold and Stock Company did not have the necessary instruments on hand?

A. I was not kept advised of the stock on hand. It required some time to build and equip lines. I was not then, and I am not now, aware that we could not have equipped these lines as soon as they were ready for equipment.

X Q. 130. Were the offers made in those letters for the sale or rental of instruments—referring particularly to the Edison telephones?

A. For rental of the instruments and maintenance of the service, which was the manner of putting out telephones followed by the Gold and Stock Telegraph Company for the private lines and exchange lines of this city, and I believe most other cities, which plan is, I believe, still maintained.

X Q. 131. In your answer to question 33 you state that you believe both of the exhibition lines referred to in your answer were in operation in the month of June, 1878, but that you have no means at your command of fixing the exact date. Are you positive that said lines were actually in operation at any time during the month of June, 1878?

A. In regard to the exhibition line connecting the rooms of the Western Union building, I remember it to have been in operation before I changed my desk from a room on the third floor to a room on the fourth floor. I have been shown a pay-roll from which it appears that on June 24th, 1878, my name was entered on one of the pay-lists of the Gold and Stock Telegraph Company, which I think was on or about the day that I moved my desk, which would make it prior to June 24th that I was familiar with it and operated the line referred to. As I testified in my answer to question 33, I have no means at my command of fixing the date of the other line.

X Q. 132. Does the entry on the pay-roll establish in your mind beyond doubt the time when you moved your desk?

A. Not beyond doubt.

X Q. 133. Was the exhibition line running between rooms in the Western Union building to which you have referred put up especially for the purpose of testing telephones?

A. I think it was put up more for the purpose of exhibiting telephones than for testing them. It had been equipped prior to the Edison equipment with magneto-telephones of various kinds.

X Q. 134. In what room or rooms were the telephones located on this line?

A. One was in a room opening off of the experimental room of the electrical department; I do not remember the number of the room. The other was in the office of George B Prescott on the other side of the building, I think room 37.

X Q. 135. Who was the Mr. Bentley referred to in your answer to question 35?

A. I think he was president of the American District Telegraph Company of Philadelphia, or the Philadelphia Local Telegraph Company.

X Q. 136. In your answer to question 27, relating to the methods of putting out telephones in the private-line department, you state that when the service was in working order it was marked under the word "finished" with the date from which charges were to be made. Who determined this date and the fact that the work had been finished?

A. It was not determined by the secretary, but by the superintendent of the private-line department, who made the entry on the order-blank.

Cross-examination closed.

Redirect examination:

R D. Q. 137. Please explain a little more fully what you mean by your

reference to experiments with perfected instruments in answer to cross-question 63.

A. I mean the exhibitions of the perfected instruments, especially those which took place on the line referred to communicating between rooms of the Western Union building.

R D. Q. 138. What was the object, principally, of these exhibitions?

A. I suppose so that all the officers of the various companies and those to whom they wished to show the instrument could have an opportunity of seeing it work.

R D. Q. 139. What information led you to understand in making your answers to questions 103 and 106 that the matters there inquired about were to be used, presumably, in this particular case? Will you please explain more fully what you meant by those answers?

A. I really know nothing about this case or any other Drawbaugh case. I merely meant to imply that I knew the information had to do with some case in which Drawbaugh was concerned. I merely inferred that it was this case because the same subject-matter seemed to be involved, which I gather from the questions which have been put to me.

Redirect examination closed.

Recross-examination:

R X Q. 140. Did you not clearly understand at the time you prepared and executed your affidavit in 1888, referred to in the cross-questions mentioned in your last preceding question, that the evidence was to be used adversely to Mr. Drawbaugh's claims pending in the Patent Office?

A. I so understood.

Examination closed.

HOWARD R. BUTLER.

No. 150 BROADWAY, NEW YORK,
February 13th, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF GEORGE BLACK SCOTT.

GEORGE BLACK SCOTT, a witness called on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit:

Q. 1. State your age, name, residence, and occupation.

A. Name, George Black Scott; age, 52; residence, New York; occupation, superintendent and electrician of the Gold and Stock Telegraph Company of New York City.

Q. 2. What was your occupation in 1878?

A. Superintendent of the same company.

Q. 3. Were you familiar with the business of that company during the said year? and if so, state generally what it was.

A. I was. It consisted, firstly, in supplying stock and other quotations to the public by means of tickers; secondly, supplying parties with private lines equipped with printing-telegraph instruments running from one part of the city to another, or from our central office to their places of business; thirdly, the introduction of telephones on our private lines.

Q. 4. What kind of telephones had you reference to in your last answer?

A. Phelps magneto-telephones and Edison carbon transmitters.

Q. 5. When and under what circumstances did you first have knowledge of the Edison carbon transmitter?

A. A short time previous to May 31st, 1878, I received a pair of Edison carbon transmitters for trial. I tried them on a private wire reaching from my house in Brooklyn to my office in New York, and found they worked well, and in consequence I wrote to Mr. Edison on May 31st, 1878, as follows:

MAY 31ST.

T. A. EDISON, *Menlo Park*:

Your instruments are a success on the Brooklyn wire. Can you furnish me with two induction-coils and two more transmitters alone to fit up a set for merchants' circuit? Want to show you new design for combination box I am making. Reply.

(Signed) GEORGE B. SCOTT,
Superintendent.

The year 1878 does not appear on my press copy of this letter. I can certainly fix the date by many letters before and after in my press-copying letter-book. I think this must have been a telegram, although the word "telegram" is not written above it, as is usual in such cases. I did know previous to this date that Mr. Edison was making some carbon telephones, but I cannot fix the date when I first learned that he was doing so.

Q. 6. Please state what the book is to which you have referred in making your last answer.

A. It is the regular press-copying letter-book in use in my office at that time, and in which were copied all letters and telegrams written by me or at my dictation. This book runs from April 15th, 1878, and runs to June 11th of the same year. The telegram I quoted above is copied on page 412 of said book.

Q. 7. Did the Gold and Stock Company use Edison carbon telephones in its business in the summer of 1878? and if so, state the earliest date at which you had knowledge of such use.

A. They did. When I received instruments of any kind to be regularly put to use by our private-line department I notified Mr. G. L. Wiley, our assistant superintendent in charge of said department, that I charged him with the said instruments. On June the 24th, 1878, I

wrote Mr. Wiley as follows: I quote from my press-copying book, letter L, page 66 :

JUNE 24TH, 1878.

G. L. WILEY, Esq.,

Assistant Superintendent :

DEAR SIR: I charge you with the following apparatus received from Edison :
2 induction-coils with switch and key in box.

6 " " box alone.

8 carbon transmitters.

2 20-ohm sounders.

2 receiving telephones.

Yours respectfully,

GEORGE B. SCOTT, *Supt.*

With the letter K to signify the clerk who wrote it.

By this letter I fix the date of the first time we put the Edison carbon telephone into business use, as it went to Superintendent Wiley for such purpose. The company used the Edison carbon telephones before this date experimentally and for testing purposes, and we exhibited them to parties prior to that date. This I prove by the following documents: I have here an original letter, dated June the 1st, 1878, from G. M. Phelps, who was superintendent of the Western Union Telegraph Company's manufactory at that time, and will allow the notary to copy the same and verify it as a part of the record.

[2297. The Western Union Telegraph Company's manufactory, G. M. Phelps, supt., 62 to 68 New Church street.]

NEW YORK, June 1, 1878.

GEO. B. SCOTT, *supt.* :

DEAR SIR: I sent over yesterday one of the Edison carbon transmitters for telephone, the mate of which we have in circuit here. Of course it is not decided yet to mount them in the form presented. The local battery is to be attached to the two binders at the bottom of the case. The automatic spring in the fork of the hand telephone closes the local circuit when the hand telephone is out.

The magneto call batteries in this pair are very powerful. I think they will "call" easily on a circuit to Philadelphia.

Of course it may be desirable to mount the carbon transmitter with arrangement to "call" by the local battery.

Very truly yours,

G. M. PHELPS, *Supt.*

I have also here some correspondence with James Merrihew, who was superintendent of the Western Union Telegraph Company at Philadelphia, Pa., at that time, which I will allow the notary to copy. The first is from my press-copy book No. L, page 43, as follows:

JUNE 20.

JAS. MERRIHEW, *Supt., Phila.* :

I shipped you by express last night a combination carbon telephone. We want to test the line as early as possible, as we must exhibit it to the Western Union executive committee to-morrow at noon. Can you test to-night? Answer.

GEORGE B. SCOTT, *Supt.*

This was a telegram, and although the date of the year does not appear in the press copy, I know it to have been the year 1878; first, from its position in my press-copying book; second, because I remember the whole transaction and that it took place about that time.

The next is Superintendent Merrihew's answer to this telegram. It was received on a single strip of printer paper, as is usual when messages are transmitted over printing-telegraph circuits. I divided the strip into three parts and pasted them on a sheet of paper for convenience in filing. The notary is requested to copy it:

[2468.]

Rush tuthrtyone.

PHILADELPHIA, *June XXth.*

GEO. B. SCOTT, *Supt., N. Y. :*

Not arrived yet, but I will connect you to Mr. Bentley now; he is waiting.

Are you ready?

J. MERRIHEW, *Supt.*

The next is my answer to same and is copied from my press-copy book No. L, page 44. The notary will copy.

[Telegram.]

N. Y., *June 20th.*

J. MERRIHEW, *Philadelphia :*

We are ready.

GEO. B. SCOTT, *Supt.*

P.

3Dh.

The letter P after my signature denotes the name of the clerk who wrote the telegram for me. Although there is no year date in the copy, I know it was in 1878 from its position in the letter-book and from my personal knowledge of the facts.

(Counsel for Drawbaugh objects to the answer unless the letters and records referred to are regularly introduced as exhibits in the case.

Counsel for the Patent Office states that the letter-press copy-books and the original letters and papers referred to by the witness form a part of the records of the Gold and Stock Company and are not under his control, but the said documents are here present and are tendered to counsel for Drawbaugh for his inspection and for the purposes of proper cross-examination, and the notary is requested to verify the quotations made by the witness on the record.

Without waiving objection, counsel for Drawbaugh requests the notary to mark the various original documents and press copies referred to by the witness with her initials for the purpose of identification.)

Q. 8. Is George M. Phelps, referred to in the letter of June 1st, living or dead?

A. He is dead.

Q. 9. When did you receive his letter of June 1st, which has been copied above?

A. I have no personal recollection of the date of receiving it, and only can place its receipt by the date and corresponding dates on other documents.

Q. 10. Do you recognize the handwriting and signature on said letter?

A. I do; it is Mr. G. M. Phelps' own handwriting and his own signature.

Q. 11. State whether or not you received any telephone from said Phelps, and, if so, when, what it was, and what was done with it.

A. I received the Edison carbon transmitter mentioned by Mr. G. M. Phelps in his letter of June 1st, 1878. I cannot state the exact date, but believe it to be at the time mentioned in the letter. I cannot say whether it came directly to me from Mr. Phelps. It may have been received by Vice-president Walker and afterward handed to me, but I certainly got it and about the time named in the letter. Exactly what we did with it I cannot now remember, excepting that we tried it and made various experiments with it.

Q. 12. By whom were Edison carbon telephones made for the Gold and Stock Company in 1878?

A. The first we received were made by Mr. Edison, then some were made at the manufactory of the Western Union Telegraph Company. Afterward some were made by the Western Electric Manufacturing Company of Chicago, Ill., but I am not certain whether theirs were made during that year or afterward. I believe a few were made by Messrs. Partrick & Carter of Philadelphia, Pa., during 1878.

Q. 13. Did the Gold and Stock Company receive any carbon telephones from Mr. Edison in the summer of 1878, except those mentioned in your answer to Q. 5 as received at the time there stated, and, if so, at how early a date, if you know?

A. In addition to the carbon transmitters named in my answer No. 5, and which were received from Mr. Edison, I note that eight carbon transmitters with other instruments were received by us previous to June 24th, 1878. I fix the date and the fact by my letter to Assistant Superintendent G. L. Wiley, dated June 24th, 1878, in my press-copying letter-book No. L, page 66, copied above in answer to question 7. From the fact there noted that I charged them to Assistant Superintendent Wiley I know that I must have received them and have sent them in to his department.

Q. 14. State if you know whether or not Mr. Edison received pay for the telephones received from him by the Gold and Stock Company.

(Question objected to as leading.)

A. I know that a bill was rendered to the Gold and Stock Telegraph Company for Edison carbon transmitters and other telephone plant received during 1878, and that I approved said bill and forwarded it to the auditor for payment in the usual manner. I have every reason to believe that it was paid.

Q. 15. What was the private-line department of the Gold and Stock Company to which you have referred?

A. It was the department which had immediate charge of what we called "private lines." They consisted of independent wires running from one part of the city to another for the use of individual parties or firms in their own business only. Also independent wires running from a central office under our management to a number of offices or manufactories (one wire to each), forming a sort of "exchange system" similar to the system now in use called the "telephone-exchange." All these wires were immediately supervised and attended to in the private-line department, of which assistant superintendent, Mr. G. L. Wiley, was in charge. He took his instructions from me as superintendent of the company. In the early part of 1879 this department was made independent of the rest of our business and was called the private-line and telephone department, Mr. Wiley being made superintendent of the same. After that time he took his instructions direct from the vice-president.

Q. 16. What kind of instruments were used on these lines to which you have referred above?

A. On the private lines running from one part of the city to another for the convenience and use of one firm only we used private-line printing instruments. After the telephone was introduced we placed some on a few of these private lines, but their use was not very general on such lines till the telephone business had been established for some time. On the exchange wires radiating from our central office to the business-places of various subscribers we at first used private-line printing instruments. As soon as the telephone was introduced we placed them on said wires in addition to the printing instruments, and had switches so arranged that the subscribers could use either printing instruments or telephones at will. Later the printing instrument was gradually discarded, leaving telephones alone in use throughout this system.

Q. 17. Had you any knowledge concerning the putting up of carbon telephones for commercial use in this private-line department in the summer of 1878, and, if so, can you give the names of any parties for whom these instruments were so put up, and the dates if you can?

A. I would prefer to consult the records of the company before answering that question.

Q. 18. Have you any knowledge of offers to sell Edison carbon telephones by the Gold and Stock Company in the summer of 1878? and if so, state what that knowledge is and when such offers to sell were made.

A. There were two such cases during 1878. On or before June 26, 1878, Professor Charles F. Chandler requested us to sell him some telephones for lecturing purposes. We did so, and his order was completed on or before July 27th, 1878. We also sold some Edison telephones to Captain H. W. Howgate of the Signal Office, Washington, D. C. They were shipped to him about July 23d, 1878.

Q. 19. How do you fix these dates ?

A. I fix these dates by the correspondence which I have here in my letter-press copying-book No. L, above referred to, covering the period between June 11th, 1878, and August 24th of the same year. The first letter is one I wrote to Vice-president George B. Prescott, who was the manager of the Gold and Stock Telegraph Company at that time, and which I herewith hand to the notary for copying and verification.

JUNE 26, '8.

GEO. B. PRESCOTT, Esq.,

V. Prest. :

DEAR SIR: Prof. Chandler, prest. board of health, and prof. in Columbia College and Col. of Physicians and Surgeons, wishes to *buy* 2 Phelps telephones, 2 Edison do., 2 Gray do., for the purpose of using solely to illustrate his lectures in the above colleges.

Please instruct me.

Yours res'p'y,

GEO. B. SCOTT, *Supt.*

I find this copy on page 82 of said letter-book. In accordance with instructions received from the vice-president, I wrote Professor Chandler on June 29th, 1878, as per copy on page 106 of the same letter-book, giving him prices. Again on July the 6th, as per copy on page 148 of the same book, I wrote him again, acknowledging the receipt of a check for \$82, and giving him further information. On July 23d, 1878, as per copy on page 255 of same book, I wrote him again, advising him of a further shipment, and on July 27, 1878, as per copy on page 297 of same book, I wrote him again, advising him that his order had been filled.

Q. 20. Please look at the letters now shown you, which are in evidence as Chandler's Exhibits Nos. 1, 2, 3, 4, 5, 6, and state if you know what they are.

A. Chandler Exhibit No. 1 I recognize as the original of my letter dated June 29th, 1878, of which there is a press copy on my letter-book No. L, page 106, as above mentioned. Chandler Exhibit No. 2 I recognize as the check for \$82 sent to me by Professor Chandler, as above stated. It was made out to my order instead of to the order of the company, as is usual in such cases. I find my indorsement on the back, which, of course, was necessary before the company could draw the money. Chandler Exhibit No. 3 I recognize as the original of my letter to Professor Chandler, a press copy of which is contained in my letter-book No. L, page 148, as above stated. Chandler Exhibit No. 4 I recognize as the original of my letter to Professor Chandler, dated July 23d, 1878, of which there is a press copy on page 255 of the same letter-book. Chandler Exhibit No. 5 I recognize as the original of a letter which I wrote to Professor Chandler on July 27th, 1878, of which there is a press copy on page 297 of the same letter-book. Chandler Exhibit No. 6 is the original of our bill against Professor Chandler for the telephones named in this correspondence. This bill was made out by my

clerk in my office. Said clerk's name was Knight. Since the date of these transactions he has absconded and cannot now be found. I have not heard of him for seven or eight years.

Q. 21. By whom and when were the several letters to which you have referred written?

A. Those marked Exhibit No. 1, No. 3, and No. 4 were written at my dictation by my clerk, Mr. Knight, above referred to. Exhibit No. 5 was written by myself. Exhibits No. 1 and No. 4 were also signed with my name by said clerk, Mr. Knight; the small letter "K" after the signature indicates this. Exhibit No. 3 was signed by me. To my best recollection, these letters were properly mailed on the dates noted, and the check marked Chandler's Exhibit No. 2 was received on July 5th or 6th, 1878, to the best of my recollection.

Adjourned to Friday, February 14th, 1890, 10 a. m.

150 BROADWAY, NEW YORK,
February 14th, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF MR. SCOTT—Continued.

Q. 22. Referring to the sale of Edison carbon transmitters to H. W. Howgate of the Signal Service at Washington, referred to in your answer to question 18, can you produce any correspondence or documents from the records of the Gold and Stock Company by which you are able to fix the date of such sale?

A. I can. I have here the stub-book containing the stubs of my original requisitions in regular bound book form, by which I called on the supply department to furnish telephones to any parties that might be entitled to have them. This book is called "Requisition Book No. 3," and contains stubs of requisitions from 355 to 542, inclusive, covering a period of time from June 13th, 1878, to September 25th of the same year. This book was kept in my office and the requisitions were made there either by myself or one of my clerks. Stub No. 417 of this book is filled out as follows: I will give it to the notary to copy the entry.

(A copy of stub No. 417, referred to by the witness, is offered in evidence as Scott's Exhibit No. 1, and the book is tendered to counsel for Drawbaugh for inspection.)

At the top of this stub there is a number written, 2725. This shows me that my authority for making this requisition consisted of something probably noted on letter 2725, that number denoting its place in my regular office files. I have here my regular ledger of letters received, marked "A," containing lists of all letters received by me under certain heads. Under the head of "president, vice-president, and secretary," on page 206, I find the following entry:

2725, July 22d, G. B. Prescott to G. W., v. p.; wants a pair of crown phones and Edison transmitters.

This entry is in its regular place with others under the head of the year 1878 and month above stated.

From my knowledge of the way we did business I know that this letter contained a request of some kind that those telephone instruments were required by Mr. Howgate. I then looked up this number in my file, and instead of the letter itself I found a memorandum stating that said letter had been taken by Auditor Taylor on July 11th, '83, for use in some telephone suit. I then inquired for this letter from Auditor Taylor's office, but he has been as yet unable to find it.

The requisition-stub above noted, No. 417, shows that I ordered two crown telephones and two Edison telephone transmitters shipped to Captain H. W. Howgate, Signal Office, Washington, D. C., by express, on the day the requisition was made, which was July the 22d, 1878, and that said telephones were actually shipped by express on that day, and that the two crown telephones were numbered 4 and 5, and the two Edison transmitters 52 and 18. A memorandum on this stub also shows that these instruments were billed to Captain Howgate on October 15th, 1878, as follows: "2 crowns, \$24; 2 Edison sets, \$100; total, \$124."

Q. 23. Are the books to which you have referred above from among the records of the Gold and Stock Telegraph Company, and were they kept by you or under your direction at that time in the regular transaction of the company's business, and were you familiar with the entries?

A. Yes to all the questions.

Q. 24. What is your recollection as to the correctness of these entries?

A. I distinctly remember the fact that Captain Howgate applied several times for telephones, and that we made several shipments to him and charged him for the same, and I believe all these entries to be literally correct.

(The books referred to by the witness are tendered to counsel for Drawbaugh for inspection.)

Q. 25. What was the character of the instruments referred to in the entry on page 206 of your ledger above mentioned and designated as "Edison transmitters," and in stub No. 417 as "Edison telephone transmitters?"

A. This instrument was properly called the Edison carbon telephone transmitter. It consisted of a small round iron case with a flaring hard-rubber mouth-piece. It contained inside a soft-carbon button in contact with a piece of platinum foil. In some of the transmitters the platinum foil was replaced by hard-carbon button. Sometimes this circular iron case had simply two screw-posts, by which the main wires were attached to it. In other cases the circular iron case was attached to a jointed arm, which in its turn was attached to a small box containing the rest of the telephone machinery. In other cases the circular iron case had a short iron handle attached to it about 6 inches long, by which it could be held easily in the hand. These instruments were used

to transmit the words of the speaker to the party listening at the other end of the line. The transmitting portion of the instruments sent to Captain Howgate were substantially the same in all essential respects as the several exhibits now before me marked Chandler's Exhibits Nos. 7 and 8, Batchelor's Exhibit No. 2, Edison's Exhibits No. 1 and No. 3. The exact mechanical construction inside of those exhibits may in some cases be slightly different from those sent to Captain Howgate, but practically speaking they are the same instrument.

Q. 26. Have you, since the adjournment yesterday, refreshed your memory concerning the matters called for by question 17, and, if so, are you prepared to answer the question limiting the time to the summer of 1878 or prior thereto?

A. I have. The book of requisition-stubs mentioned in my answer to question 22 shows me that I made requisitions on the supply department for Edison telephones to be issued to our private-line department for regular use on various lines and to our agents outside of New York for regular business use. I will quote from this book several instances with dates.

Stub No. 416, dated July 22d, 1878, two Edison telephone transmitters to George S. Ladd, San Francisco, Cal., shipped on the same day.

Stub No. 427, July 27th, 1878, to our private-line department, 10 sets of Edison telephones for use in our telegraph and telephone central office.

On second thought I find that I have misunderstood your question. Of the actual putting up of telephones for business use on individual lines or wires I have not any personal recollection, because all this work was done under the direct supervision of the private-line department, and my knowledge of the matter ends with giving the necessary instructions to Assistant Superintendent Wiley in charge of that department.

Q. 27. State your recollection as to whether or not you gave Mr. Wiley instructions to put up Edison carbon telephones for any parties during the summer of 1878, and, if so, name the parties for whom the telephones were to be erected.

A. I did give Superintendent Wiley such instructions during the summer of 1878; but as all the records of such instructions remained in the possession of the private-line department and are not now accessible to me, I cannot give many details regarding them, but from this stub-book of my requisitions I can give you some names for whom telephones were ordered and sent to the private-line department.

On August 3d, 1878, I ordered 10 sets of Edison telephones for the custom-house line and 2 sets for J. S. Rockwell & Co. line. I fix this date and fact by reference to stub 439 and entries thereon.

On August 6th, 1878, I ordered 5 sets of Edison carbon telephones for the health department's line, as per stub No. 447.

On August 17th I ordered 2 Edison carbon telephones for the line of

Church & Company. This date and fact I fix by reference to stub No. 461.

On August 28th, 1878, I ordered 4 Edison carbon telephones for the line of J. H. Starin, stub 471.

On August 30th, 1878, I ordered 4 Edison carbon telephones for the line of Steinway & Sons. This I fix by entry on stub 474.

On August 30th, 1878, I ordered 2 Edison carbon telephones for the line of R. Hoe & Co. This I fix by entry on stub 475.

In my private diary I note the following entries :

June 29th, 1878, first Edison carbon telephone on Banker's wire, D. H.

July 23d, 1878, first Edison carbon telephone, public, on C. L. Wright's line.

These two entries are in red ink, whereas the regular entries in this diary are in black ink. This shows me that the entries were made sometime subsequent to the period named therein. It was my habit to thus interline in my diary in red ink any fact which I might find I had omitted.

(So much of the answer as has reference to the alleged memoranda is objected to unless the original record be introduced as an exhibit.)

Q. 28. State what was the purpose of the diary from which you have read and your recollection as to when the entries were made.

A. It is my own private diary, which I kept in the book usually carried in my pocket at that time, with various other memoranda. As to when I made the red-ink entries noted above, I can only say that it must have been several years ago at least, as I have no recollection of making them. I think it must have been shortly after the dates mentioned, as I used to go over my diary occasionally with a view of making any additional entries that I thought necessary. I cannot part with this diary, but am quite willing to submit it for the inspection of counsel concerned.

Q. 29. Are you the same George B. Scott who testified in the speaking-telephone interferences between Edison, Bell, Gray, and others in 1881?

A. I am.

Q. 30. In your deposition in that case you state as follows :

On June 29th, 1878, I gave Assistant Supt. Wiley instructions to put a pair of Edison carbon telephones on the private wire of James H. Banker in Irvington, New York. This was done because the magneto-telephones on said wire were not giving good satisfaction. I determine this date from examination of the records of our private-line department.

On July 23, 1878, we put Edison carbon telephones—I don't know how many; there were two or more—on the private line of Chas. L. Wright & Co. of New York. These were the first sets of Edison telephones we put out on regular working lines apart from the experimental trials that had been going on for some time. I fix the latter dates by records of private-line department.

Please look at your deposition in that case, and particularly to the answer above quoted, and state whether or not your memory is refreshed thereby, and what your recollection is concerning the same.

(The witness is here shown a copy of volume 1 of Edison's record of testimony in the case referred to.

Question objected to as incompetent and an attempt to lead the witness by what purports to be a copy of the deposition given some years after the events noted.)

A. Regarding the first part of the quotation as to the private wire of James A. Banker, I remember distinctly that we did put Edison carbon telephones on this wire, but I have no recollection of the date apart from the records I have already quoted. As regards the line of Charles L. Wright & Co., I still have no personal recollection of the fact.

Q. 31. Have you any correspondence from the records of the Gold and Stock Company bearing upon the matter called for by question 14? and if so, please produce it, state what it is, and where you obtained it.

A. I have here a file which I understand to be of paid bills, which I borrowed from the auditor, Mr. Samuel H. Taylor, of the Gold and Stock Telegraph Company, and which he informs me are part of the regular records of the company. It consists of a bill against the Gold and Stock Telegraph Company from Thomas A. Edison, dated September 7th, 1878, of \$99, for sundry telephone instruments, including 8 carbon transmitters. And another bill of same date, on the same piece of paper, against the same company, from Thomas A. Edison, for 2 Partrick & Carter telephones, \$50. Attached thereto with mucilage is a receipt for \$149, signed by Thomas A. Edison, dated October 17th, 1878, and with a note thereon saying, "Attached to bill rendered." Said receipt and note are in Mr. Edison's handwriting. These two bills are each initialed by Vice president Walker, also by Vice-president Prescott, and each bill also has my rubber-stamp autograph signature impressed thereon. This stamp I was in the habit of using when I approved any bill for payment, and no person had access to it except myself, as I kept it carefully under lock and key. The indorsement on the back of this bill is in Vice-president Walker's handwriting, and it shows me that Vice-president Walker referred the bill to Vice-president Prescott for his advice as to whether the prices were not too high. Vice-president Prescott was also electrician of the Western Union Telegraph Company, and Vice-president Walker was in the habit of consulting him on such matters. Vice-president Walker's second indorsement shows me that Vice-president Prescott replied, that as the work in making these telephones was experimental we should not be hard on Mr. Edison. This, I take it, meant that the first few instruments made of a new kind are always more expensive than later lots made in larger quantities after every detail of manufacture has been decided upon. I would add that the initials of Vice-presidents Walker and Prescott on these two bills signify that they were to be paid. This was their regular way of approving such bills.

(A copy of the bill and receipt referred to by the witness is offered in evidence as Scott's Exhibit No. 2, and the original papers are handed to counsel for Drawbaugh for inspection.)

Q. 32. State your recollection as to the date when the Edison carbon

transmitters referred to in Chandler's Exhibit No. 5 were sent and the condition of the instruments at that time.

A. I have no doubt the instruments were sent on the day the letter was written, namely, July 27th, 1878, or very nearly so. I believe they were in perfect working order, but I do not remember the exact form of transmitters which we sent. They were, however, regular Edison carbon transmitters. I think they had no handles or jointed arms.

Q. 33. How did the instruments sent to Chandler, or rather the transmitting portion, compare with the exhibits now shown you?

A. I should judge that the two now shown me are just about the same kind as those I sent Professor Chandler.

(The instruments shown the witness are in evidence, marked Chandler's Exhibits Nos. 7 and 8.)

I note that one of those shown has no mouth-piece. I am certain that neither of those sent to Professor Chandler was in that condition.

Q. 34. Have you any means of fixing the date when the 8 carbon transmitters and the 2 Partrick & Carter telephones referred to in the bill, a copy of which is in evidence as your Exhibit No. 2, were received by the Gold and Stock Company?

A. I cannot answer positively; but from my letter to Mr. Wiley of June 24th, 1878, referred to in my answer to question 7, I believe the lot of instruments in the 99-dollar bill were those mentioned in said letter, excepting that the two receiving telephones named in said letter do not appear on said bill. My reason for thinking so is that I remember Mr. Edison did not say anything about payment during the time his early experiments were being made, and I know that the bill in question was not rendered until a long time after the instruments were received.

Q. 35. Had you any knowledge of the use of Edison carbon telephones between the Western Union office in New York and Mr. Henry Bentley's office in Philadelphia in the early part of 1878? and if so, state what that knowledge is and when such use or uses occurred.

(First portion of the question objected to as leading.)

A. When Edison first sent us his carbon telephones we tried the experiment of speaking with Mr. Bentley at Philadelphia. I distinctly remember the circumstance. I fix the date by my correspondence with Superintendent Merrihew of Philadelphia, of which copies are set forth in my answer to question 7. This correspondence shows how arrangements were made to try the experiment, and it was tried either that night or the following day.

Q. 36. Look at the instrument now shown you and state if you recognize it and what it is.

A. I recognize this as one of the earliest Edison carbon transmitters. I also note that it has attached to it a small circuit-closing key, which is normally open, but which closes the primary circuit of the telephone line when it is pushed home. I think that this addition was put on in Philadelphia by Mr. Bentley, because I remember that about the time

we were trying these instruments with him he told us that he had invented such an arrangement in order that the circuit should be closed only when parties were speaking into the transmitter. He was the originator of this device as far as I know, and I do not remember that we put any such attachment on one of these transmitters in New York. Therefore I think that Mr. Bentley had this identical transmitter and had the attachment placed on it.

(The instrument shown the witness is marked in evidence Edison's Exhibit No. 3, being the same instrument as was marked in the speaking-telephone interferences as Bentley's Exhibit No. 3.)

Q. 37. Mr. Phelps, who has heretofore testified in this case, stated in his deposition that certain Edison carbon transmitters made at the Western Union factory were sent to the supply department of the Western Union Telegraph Company in New York. Did you, as superintendent of the Gold and Stock Telegraph Co., draw upon the supply department for telephones, and, if so, how did you get them?

(Question objected to, first, as leading, and, second, because no proper foundation has been laid for the same.)

A. I did, either personally or through my representative. The practice was to make a requisition on the supply department, stating to what person and place the telephones were to be sent, and the supply department then shipped them accordingly.

Q. 38. Can you state, by reference to any of the books or records of the Gold and Stock Company kept by you or under your direction during the summer of 1878, what became of the telephones which you received from the supply department, or any of them, and can you trace any of such instruments by their numbers?

A. From the records in my possession I can state what became of some of the Edison carbon telephones we received from the Western Union supply department by referring to my requisition stub-book, mentioned heretofore, and which I have here. By entries in stub 416 I find that two Edison carbon transmitters, numbered 33 and 45, were shipped to George S. Ladd, San Francisco, Cal., on July 22d, 1878. By stub No. 417 I find that two Edison carbon transmitters were shipped to Captain H. W. Howgate, Washington, D. C., on July 22d, 1878. They were numbered 52 and 18. By stub No. 420 I find that 3 Edison carbon transmitters, numbers 22, 4, and 17, were received by our private-line department on July 24th, 1878, for use on our 23d-street exhibition line and in the telephone-exhibition room. By stub No. 427 I find that 10 Edison carbon transmitters, numbers 92, 93, 99, 100, 98, 96, 95, 87, 91, and 97, were ordered into the private-line department on July the 27th, 1878, for use on our telegraph and telephone-exchange system. By stub No. 428, dated July 27th, 1878, 2 Edison carbon transmitters, numbers 11 and 16, were ordered shipped to T. B. A. David, Pittsburg, Pa. There are subsequent entries in the same requisition-book referring to later dates.

(The notary is requested to copy the entries referred to by the witness on stubs 416, 420, 427, and 428 on the record.)

No. 416.—*For Geo. S. Ladd, San Francisco, Cal., July 22, 1878.*

Dept.	No.	Articles.	Shipped.	How.	Rec'd.	Value.
Telf	2	Edison telephone transmitters..... 33, 35.	July 22	Ex.....	.....	27

[See Scott's Exhibit No. 1, V. P. W.'s order.]

GOLD AND STOCK TELEGRAPH CO.

No. 417. No. 420.—*For P. L. dept., room 47, July 24, 1878.*
P. L. D.

Dept.	No.	Articles.	Shipped.	How.	Received.	Value.
Telf	3	Regular sets carbon telephones..... 22, 4, 17. 2 for phone room. 1 " 23d-st. exhibit. line. 25s. Entered on July, '78, account.	July 24	Delv..	July 24	40.50

GOLD AND STOCK TELEGRAPH CO.

No. 427.—*For private-line dept., room 47, July 27, 1878.*
P. L. D.

Dept.	No.	Articles.	Shipped.	How.	Received.	Value.
Telf	10	Sets Edison telephones without sound- ers. 92, 93, 99, 100, 98, 96, 95, 87, 91, 97. From T. & T. Centl. ofs. Entered on July, '78, account.	28	.....	Received .	72.50

GOLD AND STOCK TELEGRAPH CO.

No. 428.—*For T. B. A. David, Pittsburg, Pa., July 27, 1878.*
David.

Dept.	No.	Articles.	Shipped.	How.	Received.	Value.
Telephones	2	Regular sets carbon telephones..... 11, 16. (Purple ink.) Entered July, '78, account.	.....	Ex....	Rec'd	27

Q. 39. Have you any correspondence or memoranda relating to the receipt of telephones from the Western Electric Manufacturing Company of Chicago, referred to in your answer to question 12?

A. Since looking over my records I find I can state one instance where we received some carbon telephones from the Western Electric Manufacturing Company of Chicago during 1878. I have here a let-

ter taken from my file, marked 2503, dated July 24th, 1878, addressed to me and signed by Mr. Edison, per his clerk, which I will allow the notary to copy.

[T. A. Edison. (In pencil :) Rec'd June 24. G. S.]

[2503.]

MENLO PARK, N. J., July 24, 1878.

GEO. B. SCOTT, Esq., *Supt.*, N. Y. :

DR. SIR: We send you to-day two transmitters and two coils shipped to us by West'n Electric Mfg. Co., which we have tested and found good.

Very truly,

T. A. EDISON.
G.

(In pencil :) V. P. Walker says put on 23d-st. line at once.

G. S.

June 25.

At the top of this letter appears the pencil memorandum in my own handwriting and signed with the initials "G. S.," which at that time I always used when initialing anything, the words "Rec'd June 24." This shows me that on reading the letter I noticed that it was dated a month too late, and I thereupon made the memorandum referred to immediately over the date. An additional circumstance also shows me that the date of July was a clerical error. Whenever I received a letter on which I had to consult the vice-president, I generally made a memorandum on said letter of what instructions I received, if they were verbal. At the foot of this letter I find the following memorandum in my own handwriting in pencil: "V. P. Walker says put on 23d-st. line at once, G. S., June 25th." This shows me that I consulted Vice-president Walker on the day after I received the letter, and that I noted thereon his instructions, with the date I received them, as was my regular habit. Another circumstance shows me that the letter was wrongly dated. It is entered in its regular place in my ledger of letters received, which I have here, about the middle of a lot of letters received during June, 1878. A synopsis of the contents, very fully stated, is entered in this ledger. It is on page 464. The entry reads as follows:

No. 2503, June 24th, from T. A. Edison, Menlo Park, N. J. We send you to-day two transmitters and two coils shipped to us by W. E. Mfg. and tested and found good.

From all these circumstances, and the notes in my own handwriting on the letter, I am certain that this letter was received on June the 24th, 1878, although it is dated one month later.

Q. 40. State your recollection as to the receipt of the instruments referred to in said letter, and when they were received, if you can.

A. I have an impression that we received them. I cannot swear to it.

Q. 41. Look at the instrument now shown you and state, if you know, what it is.

A. I believe it to be one of the Edison carbon transmitters that were made by the Western Electric Manufacturing Company of Chicago.

My reasons for believing this are two in number: First, it is nickel-plated. I don't think any other manufactory made nickel-plated cases for us of this kind. Second, it is numbered 5004, and my recollection is that the Western Electric Manufacturing Company of Chicago began to number these instruments at the number 5000, in order to distinguish them from those made east.

(The instrument shown the witness has been heretofore marked in evidence as Batchelor's Exhibit No 1.)

Q. 42. Having refreshed your memory as above stated, do you now wish to make any change in your answer to question 12?

A. I do. I am now certain that they began to make the Edison carbon telephones during the summer of 1878. The reason I know this is because I remember that they first sent us some sample transmitters to be tested, and to see if we were satisfied with the construction thereof before they began making them for us in large quantities, and the letter just quoted shows me the date upon which we received these sample instruments.

(By consent the examination of this witness is suspended and the examination of the witness Howard R. Butler is resumed.)

No. 150 BROADWAY, NEW YORK,
February 15th, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF MR. SCOTT—Resumed.

Q. 43. Have you any further correspondence relating to the sale of Edison carbon transmitters to Howgate? If so, please produce it.

A. I have here in my letter-press copying-book No. L, on pages 253 and 254, dated July 23d, 1878, a letter written by one of my assistants and signed by myself to Captain H. W. Howgate, Signal Office, Washington, D. C., advising him of the shipment of two Edison carbon transmitting telephones. This I will hand to the notary for verification and copying.

JULY 23D, '8.

Capt. H. W. HOWGATE,
Signal Office, Washington, D. C. :

DEAR SIR: Have shipped to you 2 crown telephones and 2 Edison transmitting telephones, with desk, etc.; I inclose diagram of the latter arrangement.

After fastening the desk in position attach the line-wire to L and the ground-wire to G.

The battery, which should consist of 3 or 4 No. 2 (local) gravity-cells, is connected to the lower binding-posts. Great care should be taken that the battery connections are rightly made. From diagram it will be seen that at one station the copper pole is connected to left-hand post, while in the other station the zinc is so attached.

Leave the switch to left when not using the telephone. In this position it is ready to receive or send call. Turn switch to right when you wish to talk.

Attach the receiver at the right hand to the posts immediately below the desk, running the cords through the hole next to the binding-posts.

Yours resp'y,

GEO. B. SCOTT, *Supt.*

Q. 44. State your recollection as to when the original of that letter was written and whether it was sent to the proper address.

A. I have no personal recollection of the letter, but I am satisfied that it was properly mailed at the date noted. The word "local," in parenthesis, is in my own handwriting, which shows me that I carefully read the letter and made this addition to it before having signed it.

Q. 45. What was the exhibition-room referred to in your answer to question 38, and what was its purpose?

A. When we began placing telephones on our private wires, it was necessary to show customers what the instrument was capable of before we could make any contract with them. In order to do this a room near the vice-president's office, on the same floor, and in the Western Union building, No. 195 Broadway, was fitted up as a telephone-exhibition room. We had a special experimental wire arranged between this room and our branch office at the corner of 23d street and Broadway, where we always had an operator on duty. In the exhibition-room we placed in position the various kinds of telephones in use, with switches so arranged that we could attach any one of them to this wire. We would then give our customers an opportunity of talking to the office at 23d street through the various telephones, that he might be satisfied of their fitness for his use.

Q. 46. Did you use Edison carbon transmitters on this line prior to the 1st of August, 1878?

A. While I cannot now recollect any particular instance in which we used the Edison carbon telephones over this wire before that date, I feel satisfied that we did, because we tried every new instrument of the kind on this wire, and at the foot of the letter written to me by Mr. Edison, wrongly dated July the 24th, 1878, but which was received by me on June the 24th of the same year, as set forth in my answer to question 39, there appears the following foot-note, written in pencil in my own handwriting. "V. P. Walker says put on 23d-st. line at once, G. S., June 25th." This shows me that we no doubt put the two carbon transmitters on the exhibition line not later than the 25th or 26th day of June, 1878.

Q. 47. How were the receiving and transmitting instruments used on said line in the summer of 1878 connected in circuit, and how were the lines equipped as compared with telephone lines with the usual transmitting and receiving instruments as they were subsequently equipped and used for commercial purposes?

A. This line was exactly similar to any other private telephone line,

excepting that facilities were furnished at each end for switching on and off several different kinds of telephone apparatus. The ordinary telephone lines, which were subsequently erected and used, had at each end a single set of specified apparatus, which was always used by the subscribers. The exhibition line in question was so arranged at each end that it could be switched on any of the experimental telephone sets we might wish to show. One of these sets, for instance, would be an Edison carbon transmitter with its induction-coil and an electro-magnetic call-bell; another set might be an Edison carbon transmitter with its induction-coil, a receiving-telephone, and a magneto-electric call-bell, and so on. As we had 20 or 30 different styles of telephonic apparatus at various times during that year, it was necessary that we should be able to switch this wire on any one of them at will.

Q. 48. Did the company during the summer of 1878 use the instruments on this line connecting the exhibition-room and the 23d-street office in the transaction of its business?

(Question objected to as grossly leading. Question withdrawn.)

Q. 48. Did the Gold and Stock Telegraph Company during the summer of 1878 use the instruments on the line connecting the exhibition-room and the 23d-street office, and, if so, for what purpose?

A. It was used chiefly for exhibition purposes during that time. It might have been used in the transaction of our office business, but I do not recollect any specific instance of such use.

Q. 49. In what sense do you use the expression "experimental wire" in your answer to question 45?

A. By that expression I mean a wire on which it would be suitable to test the merits of various telephones and call-bells.

Q. 50. At the risk of repetition, I wish you would state more fully what the ledger of letters is to which you have referred in answer to question 39, and where that book has been kept.

A. During the summer of 1878, and for some time afterward, all the letters I received were entered in a journal under a progressive number, and said progressive number was noted on each letter. From this journal these entries were posted into a large book called "Letters received." Letters from similar places or parties were posted separately under special headings; for instance, all those from the vice-president, secretary, etc., were posted under one heading. The book in question is the first ledger of this kind, and is marked on the back "Letters rec'd," "A." This book was started by me in the beginning of January, 1878, and has been in my custody ever since.

Direct examination closed.

Cross-examination:

X Q. 51. Who were the officers of the Gold and Stock Company in the year 1878?

A. During the early part of the year 1878 the Hon. William Orton was the president of the company. He died on April 22d, 1878. Dr.

Norvin Green succeeded him and is still president. The Hon. George Walker was vice-president during the year 1878. He was absent several times while he filled that position, and Mr. George B. Prescott, electrician of the Western Union Telegraph Company, filled the position when Mr. Walker was away. Mr. J. D. Reid was secretary, I think, during part of 1878, but I do not remember how long he remained. He was succeeded by Mr. Howard R. Butler. I was superintendent of the company during that year. Mr. Charles S. H. Small was an assistant superintendent in charge of the Gold and Stock department. Mr. George L. Wiley was an assistant superintendent in charge of the private-line department during the same year. The auditor of the company was Mr. Samuel M. Taylor. The treasurer was Mr. R. H. Rochester.

X Q. 52. I notice that in answering the last question you have consulted certain books. Will you please state what those books are and what they purport to contain?

A. One is the official diary which has been kept in my office at my direction ever since the year 1871, or thereabouts. The other is my own private diary referred to in my answer to questions 27 and 28.

X Q. 53. By whom were the entries made in the official diary referred to?

A. By Mr. Ralph W. Pope up to the latter part of 1880, with the exception of one or two entries. After that date, and up to the present time, it has been kept mostly by Mr. Charles S. H. Small, assistant superintendent.

X Q. 54. In giving your testimony in this case, have you heretofore refreshed your memory concerning the events by reference to this official diary, and, if so, in what particulars?

A. I have during the examination examined it, but I have not taken any facts from it, to the best of my recollection.

X Q. 55. Are the various data and memoranda contained in that book entered in the chronological order, and were the various entries made at the time of the occurrences to which they have reference?

A. They are not invariably entered in chronological order. Generally speaking they have been entered at the time they occurred, but there are some cases where the entries have been made afterwards.

X Q. 56. Do the entries in that book which have reference to dates and occurrences prior to the 1st of August, 1878, appear in the chronological order of the transactions and occurrences to which they have reference?

A. They do not.

X Q. 57. Were any of the parties mentioned in your answer to question 51 connected with the Western Union Telegraph Company during the year 1878 as officers or employés?

A. The Hon. William Orton was president of the Western Union Telegraph Company. Dr. Norvin Green succeeded him in that office. Mr. George B. Prescott was electrician of the Western Union Telegraph Company. Mr. R. H. Rochester was treasurer of the same company.

X Q. 58. Please state generally the nature of your duties as superintendent of the Gold and Stock Company in the year 1878.

A. To supervise generally the working of the quotation department, consisting of stock and other quotation systems, and the private-line department, consisting of private wires for individual parties, and the manufacture of telephones to be used on our private lines.

X Q. 59. When was the private-line department, so called, first established?

A. Sometime about the year 1872.

X Q. 60. When was the manufacture of telephones begun?

A. About January 11th or 12th, 1877, the first order, I believe, was given.

X Q. 61. Under what department of the company did the manufacture of the telephones come?

A. Neither department, but under my direct supervision.

X Q. 62. For how long did you retain direct supervision of the manufacture of telephones for use by the Gold and Stock Company?

A. Until all our telephone business was transferred to the Bell Telephone Company on May the 1st, 1880.

X Q. 63. Where was your factory located?

A. We had no factory. The telephones were made mostly at the Western Union Telegraph Company's factory and at Bergmann & Company's factory in New York City; also by the Western Electric Manufacturing Company in Chicago. Of the telephones made at the latter place I had not direct supervision.

X Q. 64. To whom did you give orders for the manufacture of telephones?

A. The vice-president sometimes ordered them direct from the makers by letter; but he generally instructed me to make the order. I sometimes ordered them by letter and sometimes ordered them through the Western Union Telegraph Company's purchasing agent. There was not much regularity in making these orders in the beginning of the telephone business.

X Q. 65. In ordering telephones from the Western Union Telegraph Company, did you order them *made* or order that they be delivered to the Gold and Stock Company, leaving it to the Western Union to supply the order for certain kinds as best they might, either from stock on hand or by manufacture?

A. We generally instructed the manufacturer direct to make the telephones according to certain specified detailed instructions, and he was generally instructed to deliver them to the Western Union supply department. In some instances we may have instructed the Western Union supply department to have a certain number made and kept in store for us. I think it was not, however, our usual custom.

X Q. 66. Why, if the telephone manufacture was under your supervision and the orders were given by you as superintendent of the Gold

and Stock Company, were the telephones made pursuant to such orders delivered to the Western Union supply department rather than to the Gold and Stock Company?

A. Because by an understanding between the two companies the Western Union supply department took charge of all manufactured or purchased supplies for the Gold and Stock Telegraph Company and issued the same on regular requisitions from the latter company. There were sometimes exceptions to this, but they were rare.

X Q. 67. In the transactions mentioned in the preceding question and answer did the Western Union supply department or the Western Union Telegraph Company act as an agent for the Gold and Stock Company?

A. I do not know.

X Q. 68. Who paid for the manufacture of the telephones made by your order and delivered to the Western Union supply department?

A. As a rule they were paid for by the Western Union purchasing agent, but sometimes they were paid directly by the Gold and Stock Telegraph Company.

X Q. 69. Were you consulted regarding such payments as were made for instruments ordered by you?

A. I was.

X Q. 70. And do you know which company was charged with the amounts paid for such instruments?

A. After I had inspected the telephone and noted the fact on the bills the whole matter then went beyond my jurisdiction, and I know nothing further as to what became of the bills from personal knowledge. I do not know which company was charged.

X Q. 71. When you ordered telephone instruments from the Western Union supply department to whom were they delivered?

A. Directly to the parties named in my requisition.

X Q. 72. Were all deliveries made by the supply department upon such requisitions?

A. As a general rule they were.

X Q. 73. Did you follow the order or requisition and personally see that the articles ordered were shipped or delivered to the parties named?

A. Personally we did not, but our rule was whenever a requisition had been made to send to the party who was to receive the instruments a slip stating what had been sent, and which was to be signed by them as a receipt for the same when they received the instruments. The slip was then to be returned to me.

X Q. 74. Were these slips preserved as a part of the record of your office?

A. They were.

X Q. 75. During the year 1878 were the telephone instruments ordered by you and delivered to the Western Union supply department the property of the Western Union Telegraph Company, and were they,

or any of them, used by or subject to the orders of the Western Union Telegraph Company?

A. I think they were considered the property of the Gold and Stock Telegraph Company, held for them by the Western Union Telegraph Company, and I do not remember any instance where they were drawn from the supply department by the Western Union Telegraph Company.

X Q. 76. Were all the telephone instruments used by the Gold and Stock Company during the year 1878 procured through the supply department of the Western Union Company?

A. About those made in Chicago I cannot say. As to those made in New York, I think nearly all of them were procured through the Western Union supply department.

X Q. 77. Question repeated and attention called to the fact that it is not limited as to where the instruments were made.

A. I don't know.

X Q. 78. Please explain what you mean by the terms "Edison transmitter," "Edison telephone," and "Edison carbon transmitter," as used in your testimony. Do you refer to instruments made by Mr. Edison or such as contained what purports to be Mr. Edison's invention?

A. I do not refer solely to those made by Mr. Edison, but to all those made after the same general pattern as the sample instrument furnished us by Mr. Edison.

X Q. 79. When telephone instruments were sent to or received by you during the year 1878 were they turned over to Mr. Wiley immediately or did you retain possession of them?

A. Sometimes I turned them over to Mr. Wiley and sometimes I kept them in my office until they were needed. Such cases were not very frequent.

X Q. 80. Was it not your practice to turn such instruments over to Mr. Wiley, as assistant superintendent in charge of that particular branch, when they were received by you, and to hold him responsible for them?

A. Such was my practice when I wished to transfer them to his department, but sometimes I would hold them for other uses.

X Q. 81. And instruments might be thus transferred to Mr. Wiley for which there was no immediate demand or necessity for their use, might there not?

A. It would not be at all probable during the summer of 1878, because the private-line department needed them so badly at that time they, as a rule, put to immediate use as many as they could get.

X Q. 82. To what instruments do you refer as being so much needed by the private-line department in the summer of 1878?

A. Edison carbon transmitting telephones.

X Q. 83. When, if you know, was the Edison carbon transmitter formally adopted by the Gold and Stock Company as one of its standard instruments?

A. About June 24th, 1878, or earlier.

X Q. 84. Do you state this of your own personal recollection?

A. I personally recollect that we adopted them for business use at the time I sent some to Mr. Wiley for use on private lines, and I fix this date by my letter to him dated June the 24th, charging him with 8 Edison carbon transmitters for such use.

X Q. 85. What knowledge have you that leads you to conclude from the letter referred to that the instruments mentioned were actually used at that time, June 24, 1878?

A. I have no personal recollection of seeing those instruments actually used at that time, because after they passed into Mr. Wiley's hands he supervised their erection and use where required. From my knowledge of the condition of things at that time, however, I am certain he must have put them to use at once.

X Q. 86. Then your conclusion that said instruments were put into business use at the time said letter to Mr. Wiley was written is an inference and not based upon personal knowledge of the facts. Is this correct?

A. It is.

X Q. 87. Who is the Henry Bentley referred to in your testimony, and what position or office did he hold in the year 1878?

A. He was president of the Philadelphia Local Telegraph Company in Philadelphia at that time. This company ran a system of tickers and private wires in Philadelphia during that year.

X Q. 88. Was he, or the company of which he was president, in any way connected with the Gold and Stock Company?

A. Not that I know of.

X Q. 89. Were the Edison telephones, which you say you received during the summer of 1878, sent to you for testing purposes, or in response to an order or orders? I refer to such telephones as purport to have been made by Mr. Edison.

A. I believe they were made by Mr. Edison at the request of some of the Gold and Stock executive officers, but I have no actual knowledge of this fact.

X Q. 90. Is it not a fact that during the summer of 1878, and prior thereto, you were called upon to test various instruments, particularly carbon transmitters purporting to have been made by Mr. Edison, with a view to ascertaining whether or no they were adapted for use upon the telephone lines controlled by the Gold and Stock Company?

A. It is.

X Q. 91. Where and how were such experiments conducted, and by whom?

A. Sometimes on a private wire extending from our office in New York to my residence in Brooklyn; sometimes on the experimental line or exhibition line from our office to our branch office, corner of 23d street and Broadway, New York. The test was made by placing the

instrument at one end of the wire and listening to the result at the other end. I generally made these tests myself, assisted by Assistant Superintendent Wiley.

X Q. 92. Were these the only lines used for the purpose mentioned?

A. They were not. At times we tried the instrument on shorter lines, but we relied mainly on their performance over these two particular lines in order to get an idea of what they would do.

X Q. 93. Were any records made or reports prepared as to the result of such tests?

A. Records were not made to my knowledge. Reports of such tests were generally made verbally to the vice-president.

X Q. 94. What arrangements, if any, were there between the Gold and Stock Company or the Western Union Telegraph Company concerning the testing or trial of instruments made or offered by Mr. Edison?

A. Of the understanding which may have existed between these companies and Mr. Edison I have no knowledge. The telephones in question generally reached me with a request from the vice-president to try them and let him know how they worked.

X Q. 95. What instrument was that referred to in your letter of June 20, to James Merrihew, as a "combination carbon telephone?"

A. I do not remember the exact construction of this combination, but I believe it was a combination of the Edison carbon transmitter with a Phelps magneto-telephone as the receiver. I am not at all certain about these details, but I do know that the Edison carbon transmitter was the part of the combination used to transmit the conversation.

X Q. 96. Was the test referred to in that letter made, and, if so, with what results?

A. To the best of my recollection it was made either that evening or the following day. I think on that occasion we heard Mr. Bentley speak and talked back to him, but I am not quite certain whether it was on this particular occasion that we obtained these results.

X Q. 97. Was the operation of the line and instruments exhibited to the Western Union executive committee, as indicated in said letter?

A. I do not remember.

X Q. 98. Were the Partrick & Carter instruments referred to in your answer to question 12 made by them under orders from you?

A. They were not made by orders from me. I do not know who gave the order for their manufacture.

X Q. 99. Were they made for the Gold and Stock Company, as stated in said answer?

A. I have no recollection of how they were ordered or exactly for whom.

X Q. 100. Did you order any instruments to be made by Edison for the Gold and Stock Company during the year 1878?

A. I might have done so, but I do not remember.

X Q. 101. Did you order any instruments made by the Western Elec-

tric Manufacturing Company during the summer of 1878 for the Gold and Stock Company?

A. I do not think I did. Such an order, if issued, would probably have been sent by the vice-president.

X Q. 102. Did you order any Edison carbon transmitters to be made by the Western Union Telegraph Company or its factory during the summer of 1878?

A. Without reference to my records I cannot state with certainty. I believe I did.

Adjourned to Monday, February 17, 1890, 10 a. m.

FEBRUARY 17, 1890.

CROSS-EXAMINATION OF MR. SCOTT—Resumed.

(No X Q. 103.)

X Q. 104. In your answer to question 5 you state that a short time previous to May 31st, 1878, you received a pair of Edison carbon transmitters for trial. Will you please state from whom you received those instruments?

A. I do not remember.

X Q. 105. What was the "merchants' circuit" referred to in your letter of May 31st, 1878?

A. It was a new system we were introducing, and consisted of a central office, with individual wires from said office to each of the subscribers, so that we could by means of switches in the central office connect any two of said subscribers, so that they might converse together. The instruments to be used on these wires when the arrangement was first proposed were private-line printers.

X Q. 106. Was said new system in operation at the time that letter was written? If so, were the Edison carbon transmitters placed upon them or used in connection with it?

A. I think it was not then in actual operation, but we were getting the machinery ready to start it, but I am not certain about this.

X Q. 107. When was said system put in operation, if at all, and when were the Edison carbon transmitters placed upon it?

A. I cannot recollect the date on which we started the merchants' system, but from an entry in the office diary I can give the date when we changed its name from the "Merchants' System" to the "Telegraph and Telephone Exchange," and placed Edison telephones thereon as well as printers. It was August the 5th, 1878.

X Q. 108. Have you any independent recollection of this date, or is your answer based solely upon an entry found in the official diary?

A. Regarding the date, my answer is based entirely upon the entry as in the official diary.

X Q. 109. You say in answer to question 5 that prior to May 31st,

1878, you had knowledge that Edison was at work on carbon telephones. Will you please state who you understood he was making them for?

A. I understood generally that they would be for our use.

X Q. 110. And was it with that understanding that you wrote him on the 31st of May, 1878, requesting him to furnish you induction-coils and transmitters?

A. It was.

X Q. 111. Were the instruments referred to in the letter of June 24, 1878, mentioned in your answer 7, received by you and transferred to Mr. Wiley, or may they have been sent direct to Mr. Wiley?

A. I do not remember. They may have been sent to the vice-president or to myself direct, or to Mr. Wiley.

X Q. 112. In your answer to question 26 you state that you have no personal recollection of the actual putting up of telephones for business use on individual lines or wires during the summer of 1878, because this work was under the supervision of the private-line department and your knowledge of the matter ended with giving the necessary instructions to Assistant Superintendent Wiley. Please state if you remember having given any such instructions to Assistant Superintendent Wiley at or about the time your letter of June 24th, 1878, charging him with certain apparatus, was sent him.

A. From my personal recollection I cannot answer this question, and, not having the records of the private-line department, I cannot give the dates asked for.

X Q. 113. Aside from the apparent similarity in some of the items charged in the Edison bill, Scott's Exhibit No. 2, and the Wiley letter of June 24, 1878, have you any personal recollection of the facts such as would warrant you in saying positively that the Edison instruments referred to in said bill were received at or before the date of said letter or that they were the identical instruments referred to in said letter?

A. I have not.

X Q. 114. In Merrihew's reply to your telegram of June 20, 1878, he states that he will connect you with Bentley, but the latter is not mentioned in your telegram. Was there an understanding between you and Mr. Merrihew concerning the proposed experiment? If so, what was it and why did he propose to connect you with Bentley?

A. There was no particular understanding of this kind at that time. Mr. Bentley was in the habit of making experiments with telephones between Philadelphia and Menlo Park, where Mr. Edison was at the time, and with our office in New York, when necessary. Mr. Merrihew knew this, and I suppose he thought it would be more satisfactory to us to connect Mr. Bentley, who was in the habit of making these experiments and tests.

X Q. 115. Might not the circuit-closing attachment or key on the instrument Edison's Exhibit No. 3 have been placed there by some one other than Mr. Bentley?

A. It might, but I think it entirely unlikely.

X Q. 116. Does the mere fact that Mr. Bentley claimed to have made such an attachment warrant you in concluding that this particular instrument is the one upon which he did put such attachment?

A. That particular fact, with my general recollection of all the circumstances, warrant me in concluding that it was put on by him.

X Q. 117. When did you first see that instrument?

A. I do not remember.

X Q. 118. Who is the George S. Ladd heretofore mentioned in your testimony, and for what purpose, if you know, were telephone transmitters sent him in the summer of 1878?

A. He was at that time, I believe, president of the Gold and Stock Telegraph Company of California, and the instruments were sent him with a view of introducing them on their California wires with others, if they liked them.

X Q. 119. Was the experimental line between 195 Broadway and 23d street used for testing and exhibiting magneto-telephones before the introduction of the carbon transmitter?

A. I do not remember.

X Q. 120. Was that line used by the Western Union as well as by the Gold and Stock for making experimental trials of instruments?

A. It was not as a rule. We might possibly have loaned it to them on one or two occasions as a matter of courtesy, but it belonged entirely to us and could not be used by them without our permission.

X Q. 121. Were any slips or receipts, such as mentioned in your answers to questions 73 and 74, sent to and received from Professor Chandler, Captain Howgate, G. S. Ladd, and the private-line department for instruments mentioned in correspondence with Professor Chandler, stub No. 416, stub No. 417, and the Wiley letter of June 24th, 1878?

A. Not having the private-line records to refer to I cannot answer that question.

X Q. 122. Were such slips sent by the private-line department or by you?

A. They were sent by me, but all of the telephone records pertaining to such private-line business have passed out of my possession.

X Q. 123. Who was the J. H. Banker heretofore referred to, and had you any personal knowledge concerning the putting in of carbon telephones or their use upon his lines in the summer of 1878?

A. He was a director of the Gold and Stock Telegraph Company. I had personal knowledge that we arranged to have carbon telephones put on his private wire, and the instructions were given to the private-line department to place them on said wire, and I am certain they were so placed.

X Q. 124. What reason have you for believing they were so placed? Did you see them?

A. I did not see them placed, but my recollection of the fact is so

strong that I have no hesitation in saying positively that they were so placed.

X Q. 125. Your recollection of what fact?

A. That Mr. Banker wished to try the telephones on his wire, that I was instructed to place them there, and that Mr. Wiley did have them so placed.

X Q. 126. How do you know that Mr. Wiley did have them so placed?

A. It is simply a matter of recollection on my part.

X Q. 127. Recollection of what?

A. Principally of conversation which occurred between Mr. Wiley and myself as to the working or placing of these telephones. Although I cannot remember these conversations themselves, I remember that we talked a good deal about them.

X Q. 128. Aside from the entries contained in your private diary have you any means for determining or fixing definitely the date when carbon transmitters were first placed on Mr. Banker's line?

A. I have not.

X Q. 129. Were any Edison carbon telephones delivered to private-line department prior to June 24, 1878?

A. I have no doubt there were, but I cannot remember the particular instances.

X Q. 130. Do your records show such deliveries?

A. The records in my possession do not.

X Q. 131. When after the 24th of June, 1878, was the next delivery of Edison carbon transmitters made to the private-line department?

A. My letter of June 25th, 1878, a press copy of which appears on page 79 of my letter-book No. L, reads as follows:

JUNE 25, 1878.

To G. L. WILEY, Esqr.,

Asst. Supt., N. Y.:

DEAR SIR: I charge you with the following apparatus received from the Western Electric Manufacturing Company and handed to you this day:

2 Edison carbon transmitters.

2 Induction-coils in box with switch and key.

Yours resp'y,

GEO. B. SCOTT, *Supt.*
K.

This places the next delivery as per your question.

X Q. 132. Where were these instruments procured from?

A. From my correspondence, I believe they were made by the Western Electric Manufacturing Company of Chicago, shipped to Edison to be tested, and then sent by him to me, as per his letter dated July 24th, 1878, but received by me on June 24th, 1878.

X Q. 133. When was the next delivery to the private-line department?

A. I do not know positively, but in my stub requisition-book stub No. 420, dated July 24th, 1878, shows that 3 sets of carbon telephones were received by the private-line department on July 24th, 1878.

X Q. 134. Have you any personal recollection as to when Edison carbon transmitters were first placed on the line of Charles L. Wright & Co.?

A. I have no personal recollection.

X Q. 135. Were the Banker and Wright & Co. instruments put in by your order? If so, when was the order given, and to whom?

A. These events happened so long ago I cannot give any answer from my personal recollection.

X Q. 136. In the summer of 1878 who had authority to determine the parties entitled to telephones, as mentioned in your answer to question 22?

A. The vice-president of the Gold and Stock Telegraph Company.

X Q. 137. Was this officer the only one from whom you received orders to put in or sell telephones?

A. He was not. When we first began putting out telephones I sometimes received orders direct from the vice-president as to who should have them; but the regular method was for the secretary to prepare a contract with the parties who asked for them, which contract was approved by the vice-president, and I was then advised by the secretary to start the line with telephones or other instruments accordingly.

X Q. 138. When was the exchange system mentioned in answer to question 15 organized and put in operation?

A. It was first called the "merchants' system," and printing-telegraph instruments only were used or intended to be used upon it. When it was thus started I do not remember, but on or about August the 1st, 1878, the name was changed to the Telegraph and Telephone Exchange, and the wires were equipped with Edison telephones as well as private-line printers.

X Q. 139. Have you heretofore and prior to the time you were asked to be a witness in this case been called upon to investigate or report or to execute affidavits concerning the early use and sale of the Edison carbon transmitter? If so, state when and for what purpose you were given to understand such reports or affidavits were to be used.

A. I have; I think at two different times. I cannot recall the dates, nor can I now say exactly in whose behalf these affidavits were made.

X Q. 140. Please state as near as you can when said reports or affidavits were made.

A. It must have been about 7 or 8 years ago, as near as I can remember.

X Q. 141. Please state who were the parties who called upon you for this purpose.

A. I think Mr. Swan was one of the parties; the other I don't remember.

X Q. 142. Who is the Mr. Swan referred to?

A. I do not know. I was instructed in both cases by Auditor Taylor, I believe, that it would be for the interests of the company that I should give my evidence, and I did so accordingly.

X Q. 143. Were you informed at that time for what purpose this evidence was desired and how it might affect the interests of your company? Please state what you recollect on this subject.

A. I might have been informed, but I do not now remember any of the details further than that the parties were collecting evidence with the consent of our company, and I was advised to add my information, if I had any, as it would be for the company's interest. In a general way I understood it was a telephone suit or interference.

X Q. 144. Were you not given to understand at that time that the object had in view was to establish public use or sale of the Edison carbon transmitters in the summer of 1878?

A. I believe I was.

X Q. 145. And did you make an investigation for the purpose of fixing the dates?

A. I did by looking up what records I had and making affidavit accordingly.

X Q. 146. Did Mr. Swan assist you in any way in ascertaining the dates given in your affidavit, and did he prepare the affidavit for your signature?

A. He and I looked over the records together and selected such as would seem useful. He prepared the affidavit, which I examined and signed after making any changes that were necessary.

X Q. 147. Did Mr. Swan tell you what he proposed to do with that affidavit?

A. He did not.

X Q. 148. What was the other occasion?

A. I cannot now remember.

(This line of examination and all the previous questions relating to the same matter is objected to as not being based upon the direct examination and as irrelevant.

Counsel for Drawbaugh states that this line of cross-examination is pursued for the purpose of showing the interest and bias of the witness, as well as the source or sources of his information concerning the matters and things testified to in his direct examination; and, further, that the cross-examination in this line is entirely proper and legitimate.)

X Q. 149. Who consulted you on this other occasion?

A. I cannot remember the name of the party.

X Q. 150. Was it before or since making the affidavit for Mr. Swan?

A. I think it was a long time before that.

X Q. 151. Did you make any investigation at that time?

A. No; I simply answered the questions put.

X Q. 152. Was it prior to the time you gave your testimony in the interference cases?

A. After seeing a copy of my testimony in the interference case, as given at Mr. Serrell's office, I recognize that as the "other" time named by me above. I remember going to Mr. Serrell's office for the purpose.

X Q. 153. Can you in any way identify the Mr. Swan mentioned in answer to question 141?

A. Our auditor has advised me that Mr. Swan is a lawyer from Boston. Mr. William W. Swan is his full name, I understand, and I am instructed to give him what information or assistance he needs.

X Q. 154. Referring to the originals of Exhibit Scott No. 2, please state what the blue-pencil mark and figures 1482 found on the margin refer to.

A. I do not know.

X Q. 155. When, if you know, was said bill rendered?

A. I suppose, from the date, that it was rendered about September 7th, 1878.

X Q. 156. Referring to the Edison letter to you dated in ink July 24, 1878, and copied into the record in this case, I observe that the memoranda "Rec'd June 24, G. S.," and "V. P. Walker says put on 23d-street line at once, G. S., June 25," are written in pencil on the face. Was any of said matter contained upon this letter when you received it first?

A. It was not.

X Q. 157. I also observe that the entry on page 464 of the record of letters received appears to have been as to number and date written over an erasure. Can you tell when or how this occurred?

A. I have no personal knowledge of why this particular erasure was made, but the clerk in selecting letters to be placed in this ledger under their different heads would sometimes make a mistake and begin to enter a letter under a head to which it did not belong. On finding his mistake he would erase his entry and write the letter down in another place under its proper heading. The next letter written under the heading where the erasure had been made would therefore come over the erasure. This was no doubt the case here, and it is shown to be so by the fact that the synopsis of this letter is written on the original line belonging to it without any erasure, showing that the clerk found out his mistake when he began to enter the synopsis. Many similar erasures can be seen throughout the ledger.

X Q. 158. Is the book which you have heretofore referred to as your private diary a diary in fact, in which entries are made from day to day of events as they occur, or a memorandum-book in which you enter from time to time such items, facts, and occurrences as you desire to make reference to?

A. It is the latter.

X Q. 159. And in making such entries you are not controlled by the time, but place them as nearly as possible under their proper heads, and, if practicable, in the order in which the events occur. Is this not a fact?

A. As a general rule each event was entered at or near the time that it occurred, but there are a number of instances that were not so entered, but at a subsequent time, when I found they had been omitted.

X Q. 160. When did you begin keeping this book?

A. I do not know.

X Q. 161. Does the entire book constitute a diary of events arranged in the order of their occurrence?

A. It does not. It is a memorandum-book alphabetically arranged. It contains addresses and memoranda. The diary comes under the head of letter D and other letters as it was extended.

X Q. 162. In your testimony you have made reference to certain interlined memoranda in red ink under dates June 29 and July 23, 1878. Will you please state as near as you can when said interlineations were made?

A. From the age of this book and the fact that the entries were made so long ago that I do not remember making them, I judge it must have been 7 or 8 years ago at least.

X Q. 163. Can you state positively that said interlineations were made prior to the making of the affidavit for Mr. Swan, to which reference has heretofore been had?

A. I cannot.

X Q. 164. Is it possible that they may have been made at the time or shortly after you assisted Mr. Swan in looking up data concerning the first use and sale of Edison carbon transmitters?

A. It is.

X Q. 165. Please state what the black-ink memoranda is on the line preceding said red-ink interlineation.

A. It is as follows:

May 1st, Mrs. Hubbard leased 23d street.

This occurs in the section included in the year 1878.

X Q. 166. The same question with respect to the next following black-ink entry.

A. It is as follows:

August 1st, started tel. exchg. 198 B'way.

This also occurs in the section for the year 1878.

X Q. 167. I note the fact that the entry at the top of the left-hand page is dated May 9, 1877, and that at the bottom of the right-hand page August 1, 1879; and, further, between each separate entry a space is left. Why was this done?

A. I do not remember.

X Q. 168. I note on the same page with the entries of June 29 and June 23 a red-ink entry dated October 24, 1877. Please state when that entry was made.

A. I don't know.

X Q. 169. I also note on the same page, under date November 6, 1877, a red-ink entry, as follows:

"Trial of magphones; see letter-book to V. P."

Please state, if you can, when that entry was made.

7083 TEL—8

A. I do not know.

X Q. 170. I note on the same page near the bottom a lead-pencil memorandum. Will you please state what it is and to what it has reference, as well as in whose handwriting it is?

A. It has reference to the date of a meeting said to be in this diary February 26th, 1879, with the note of my own added, "I think." The pencil memorandum is, "wrong, G. L. W.," signifying that Mr. Wiley told me afterwards my date was wrong. I am not certain whose handwriting it is.

X Q. 171. Will you please read to the notary the dates of all the items in black ink noted under the year 1877?

A. January 30th, February 1st, March 31st, April 7th, May 9th, July 28th, December 15th.

X Q. 172. Please state the dates of all the red-ink interlineations under the year 1877.

A. February 17th, April 9th, October 24th, November 6th.

X Q. 173. Will you please read to the notary the dates of all items in black ink noted under the year 1878?

A. January 12th, January 18th, March 15th, April 22d, May 1st, August 1st, October 9th, November 1.

X Q. 174. Please give the dates of all entries under the year 1878 which you recognize as interlineations.

A. June 29th and July 23d are interlined in red ink. An addition is made in black ink to the entry of January 12th, noting when a certain book-record was ended. The black-ink entry of January 18th looks like an entry added between the others. I am not certain about it.

(The notary is requested to copy in the order in which they appear the several red-ink interlineations occurring under the years 1877 and 1878, as well as the black-ink interlineation dated January 18, 1878. They are as follows:

February 17, 1877. My letter to V. P. Walker about newly invented "*telephones*" and buying same.

April 9th. My letter F 428, April 9th, 1877, to Phelps describes the establishing the Centennial Printer model.

October 24th. Date of first deposit received.

November 6. Trial of magphones; see letter-book to V. P.

1878, January 18th. Date of first order to ship telephones.

June 29th, 1st Ed. carbon tel. on Banker's wire, D. H.

July 23d, " " " public on C. L. Wright's line.)

X Q. 175. Will you please examine all the entries during the years 1877 and 1878, and state which ones, if any, aside from those mentioned above as being red-ink interlineations, refer to telephones?

A. I find two. First the one of January 18th, as copied above on the record. The second is August the 1st, noting that the telephone-exchange was started.

X Q. 176. Why did you delay until July 27, 1878, in sending the Edison carbon transmitters to Professor Chandler?

A. Probably because we needed them so much at that time and had so few that we could not spare them before that time.

X Q. 177. Needed them for what?

A. Probably for exhibition, to use as samples for parties who were manufacturing them, and to use on trials and experiments.

X Q. 178. How did you fix the date when carbon transmitters were shipped to Captain Howgate?

A. By the stub No. 417 in my stub requisition-book. It shows that they were shipped on July 22d by express.

X Q. 179. Referring to the stub No. 416, please explain the meaning of the blue-pencil mark "106."

A. I have forgotten. It refers to some entry on some other books, but what I do not remember.

X Q. 180. I note the fact that the entry "July 22" in the column marked "shipped" is in red ink, whereas the body of the stub is in a different-colored ink. Please state when and by whom that red-ink entry was made.

A. My recollection is that it was made by my clerk, Mr. Knight, upon receipt of information from the supply department that the telephones had been shipped as ordered.

X Q. 181. How was such information usually conveyed to you from the supply department?

A. To the best of my recollection they sent us a printed slip filled up with the information required.

X Q. 182. Was it the custom to make the entry on the stub of the day of shipment on the same day that the shipment was made?

A. No; it was seldom done as soon as that. It might be some time, five or six days, afterward.

X Q. 183. Referring to stub No. 417, please state when, if you know, the red-ink entry "July 22" in the column "shipped" was made.

A. I could not say, excepting that it was probably a few days after the requisition was made out.

X Q. 184. Was this entry made in your office?

A. It was.

X Q. 185. Does said entry, which appears opposite the numbers standing for 2 crown telephones, necessarily imply that the instruments referred to in the succeeding entry were shipped on that day?

A. I believe it does. If the two crown telephones only had been shipped there would probably have been a note stating the fact.

X Q. 186. Please state, if you know, in whose handwriting the stub No. 417 is.

A. The body of the order is written by Mr. Ralph W. Pope, the entry of date of shipment by Mr. Knight, I think. The figures denoting the value, in red ink, were written by Mr. E. E. Kendrick, I think. The black-

ink note stating how the telephones were billed was written by Mr. E. E. Kendrick. His initials are added to this note in red ink on the right-hand side. The red-ink memorandum "billed to sec'y," to the right of Mr. Kendrick's note, I do not recognize to a certainty. The date "July, '78," at the bottom of the page I think was written by Mr. Kendrick.

Adjourned to Tuesday, February 18th, 1890, 10 a. m.

NEW YORK, *February 18th, 1890, 1.30 p. m.*

EXAMINATION OF MR. SCOTT—Resumed.

X Q. 187. Have you been requested or instructed by any of the officers of the Gold and Stock or Western Union Company to give your evidence in this cause, and, if so, by whom?

A. I have not.

X Q. 188. Will you please explain the meaning of the words "billed to sec'y" appearing in red ink on stub No. 417?

A. When we issued any article by requisition which was to be a sale we always noted on the stub "bill sent to secretary" when the bill had been duly made out and sent to the secretary for collection in the regular way.

X Q. 189. When was that indorsement made on the stub?

A. I do not know; probably on October 15th, 1878, at the time the note by Mr. Kendrick was dated showing at what price the telephones were charged.

X Q. 190. The entry on stub 417 under the heading "shipped" appears to be in a different ink from anything else upon the stub, with the exception of the numbers 52 and 18 occurring under the entry "2 Edison telephone transmitters by express to-day." Please state if you can positively swear said entry was made by a clerk in your office.

A. I can. The reason for the difference in ink is as follows: The clerk who filled up the entries in these columns did so from information of their shipment sent us by the supply department in the shape of advice-slips, I think. When he had a bunch of these slips he would take them and enter the dates on each requisition-stub, one after the other, until they were all entered up. He would probably do this with an ink different from that used by the other party who wrote on the stub.

X Q. 191. What does the entry "2 for phone-room" on stub 420 signify?

A. That the telephones ordered by said requisition were to be placed in our telephone-exhibition room.

X Q. 192. Have you any recollection concerning the contents of the letter numbered 2725, referred to in your answer to question 22?

A. I have no recollection of the letter itself. My knowledge of it is gathered from the synopsis in my ledger of letters received.

X Q. 193. Do you remember the circumstances attending the alleged sale to Captain Howgate?

A. I remember that at several times I was told that Captain Howgate wanted telephones. At one time it was said he needed them for the expedition he was fitting out that was going to the north pole. I also remember the fact that we shipped telephones to him several different times.

X Q. 194. Was it before or after the 22d of July, 1878, that the request was made for telephones for the North Pole expedition?

A. I do not remember.

X Q. 195. Do you remember for what purpose Captain Howgate desired the carbon transmitters referred to in the letter of July 23d, 1878?

A. I do not remember.

X Q. 196. Was there any correspondence received or had with Captain Howgate prior to that date which would throw light on this subject?

A. I do not think there was any correspondence between Captain Howgate and myself. Such would probably be found in the vice-president's record if any such correspondence existed, and I have no doubt that it did.

X Q. 197. In whose possession is the vice-president's record for the year 1878?

A. I am not certain, but I think they are to be found either in the office of Auditor Taylor, of the Gold and Stock Telegraph Company, or Secretary A. R. Brewer, of the Western Union Telegraph Company.

Cross-examination closed.

Redirect examination:

R D. Q. 198. Are the several entries in your private diary for the years 1877, 1878, and 1879 in your own handwriting?

A. They are.

R D. Q. 199. In your answer to question 28, referring to the red-ink entries in said diary, you state, "I have no recollection of making them." What did you mean?

A. I meant that I had no recollection of the time I made the entry, or why I did so, as it occurred so long ago.

R D. Q. 200. In your answer to question 42, to which company had you reference in your statement that "they began to make the Edison carbon telephone?"

A. By the word "they" in that answer I meant the Western Electric Manufacturing Company of Chicago.

R D. Q. 201. Can you state what became of any of the slips which you say in your testimony were sent to the party who was to receive the instruments for which a requisition had been made and was to return the same as a receipt therefor?

A. Regarding the shipments to Ladd, Howgate, and Chandler, I do not know what has become of the slips for same. They may have been passed to the auditor with our other telephone-records.

R D. Q. 202. Is J. H. Banker, referred to in your testimony, still living?

A. He is not.

R D. Q. 203. Referring to the entries in the diary concerning the Banker and C. L. Wright & Co. lines, have you any reason to believe that such entries were not made according to your usual habit of noting entries in said diary?

A. I have no reason to suppose otherwise, as I do not remember the circumstances connected with my making said entries.

R D. Q. 204. Referring to your answer to X Q. 177, did you intend to limit the same to the uses therein mentioned?

A. I do not, because I do not recollect the specific use to which we put each telephone. I answered from my general recollection of what we were doing with these instruments at that time.

R D. Q. 205. Was it necessary at that time or in the month of July, 1878, to conduct trials and experiments of the Edison carbon telephone for the purpose of testing its practicability, or were such trials and experiments conducted for the purpose of exhibition, etc.?

A. It was not necessary, because its practicability had been at that time established. But the makers were from time to time suggesting new shapes of the instruments or slight changes in its mounting, and all of these departures or changes had to be examined or tested. We also had to use these instruments largely for exhibition to intending customers, as they always insisted on an actual trial of the telephone before they would make any contract for their use.

R D. Q. 206. In view of your letter to Captain Howgate dated July 23d, 1878, and copied in the record, together with the stub in your requisition-book referring to the same matter, have you any doubt as to whether the Edison carbon telephones were shipped to Mr. Howgate on or about the date of the letter?

(Question objected to as offensively leading and as improper redirect examination.)

A. I have not the slightest doubt.

R D. Q. 207. To what did you refer in your 79th cross-answer by the expression "such cases were not very frequent?"

A. I referred to my words, "sometimes I kept them in my office until they were needed."

R D. Q. 208. To what instruments did you have reference in making your answer to X Q. 86?

A. I referred to the 8 Edison carbon transmitters charged to Mr. Wiley by my letter of June 24th.

R D. Q. 209. State whether or not the entries in your stub-book were made in the regular course of business and your recollection as to the correctness of such entries as you have referred to in your testimony.

A. They were made in the regular course of business. I have no doubt they are all correct.

R D. Q. 210. State whether or not the entry in your ledger of letters, referring to letter No. 2503 on page 464, was made in the regular course of business, and whether or not you have any reason to believe that said entry was not correctly made as it appears to have been in its regular order on or about the date noted.

A. It was made in the regular order of business by the same clerk who entered all the other letters at that time, and I have no doubt whatever that the entry is exactly correct, although the first part of it appears over an erasure.

Redirect closed.

Recross-examination :

R X Q. 211. Did you personally make the entries in the stub-book?

A. The entries referred to in this testimony I did not make personally. I sometimes made the entries personally in this stub-book, but the usual practice was for one of my clerks to do this work under my direction.

Examination closed.

GEORGE B. SCOTT.

Adjourned until further notice.

NO. 150 BROADWAY, NEW YORK,
March 13th, 1890, 10 a. m.

Met pursuant to agreement. Present, counsel as before.

Adjourned to Astor House at 11 o'clock.

ASTOR HOUSE, 11 o'clock.

EXAMINATION OF GEORGE L. WILEY.

GEORGE L. WILEY, a witness called on behalf of the Patent Office, being duly sworn, deposes and says, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit :

Q. 1. What is your name, age, residence, and occupation?

A. George L. Wiley; age, 40; I live at Arlington, New Jersey; I am eastern manager for the Standard Underground Cable Company.

Q. 2. What was your occupation in the summer of 1878?

A. Assistant superintendent of the Gold and Stock Telegraph Company in charge of their private-line and telephone department.

Q. 3. What was the business of this private-line department?

A. Building telegraph lines and connecting them with different stations, equipping them with whatever telegraph apparatus or telephones a contract called for, and maintaining them in good working order.

Q. 4. What kind of telephones have you reference to in your last answer?

A. Many forms of magneto-telephones and the Edison carbon telephone later. Some time in June was the first Edison transmitter that I can remember in commercial use. The magneto-telephones referred to preceded this.

Q. 5. Explain the method of putting up telephones for use in this private-line department.

A. A blank form was filled in from the secretary's office. It was a brief abstract of a contract made with some new subscriber; that form was sent to me and it was my order to proceed with the work. Sometimes that order called for the building of the private line and its equipment with apparatus; sometimes it was simply an order to equip with apparatus some already existing line. When I had done the work required I reported the fact by returning the blank properly dated and signed.

Q. 6. I now show you certain slips, partly in print and partly in writing, called "orders," which have been introduced in evidence during the examination of a previous witness and marked "Butler's Exhibits No. 6, No. 7, No. 8, No. 9, No. 10, and No. 11." State, if you recognize them, what they are.

A. I recognize them. They are what we called "telephone orders." They came to me as instructions to equip the lines they refer to with telephones.

Q. 7. Do you recognize the signatures, or any of them, on these slips? If so, state whose they are.

A. I recognize the signature on Butler's Exhibit No. 6. It is my own signature. I signed it with a rubber stamp "Done, G. L. W." The abbreviation "asst." for "assistant," before "superintendent," I wrote. I recognize the initials "H. R. B., assistant secretary"; they were signed by Howard Butler. I recognize the stamped signature "J. C. M." It was done by a stamp used by J. C. Massa, collector. On Exhibit No. 7 I recognize my own signature. I recognize the initials "J. D. R." as the initials and writing of James D. Reid, secretary. I recognize the initials "J. C. M." and the handwriting. They are the initials and handwriting of J. C. Massa, collector. Exhibit No. 8, I recognize my own signature and the initials and handwritings of J. D. Reid, secretary, and J. C. Massa, collector. Exhibit No. 9, I recognize my own signature and the initials and handwritings of J. D. Reid, secretary, and J. C. Massa, collector. Exhibit No. 10, I recognize my own signature and the initials and handwriting of J. D. Reid, secretary, and J. C. Massa, collector. Exhibit No. 11, I recognize my own signature and the signature and handwriting of J. D. Reid, secretary, and the initials and handwriting of J. C. Massa, collector.

Q. 8. When did you sign these orders?

A. On or about the dates mentioned after the words "Charge from."

Q. 9. Where is J. D. Reid?

A. I believe he is in Dunfermline, Scotland. I have not seen him in many months. I cannot recollect when I last saw him.

Q. 10. Please look at order No. 60, Exhibit No. 11, and state if you are able to say from this order what work was done or instruments furnished the health department, and when.

A. The order instructed me to connect 5 Edison telephones and 5 Morse sounders at the five locations named in the order. I did it. I did it before the night of August 14th, 1878. At each of the five stations we also furnished and connected a receiving telephone in circuit with the Edison transmitter already named, with appropriate switches and battery and induction coils.

Q. 11. Please answer the same question in respect to Exhibit No. 10, order No. 56, C. L. Wright & Co.

A. I connected two Edison transmitters with the necessary receivers and signaling apparatus at the two stations named in the order. I did it before the night of July 23d, 1878. An induction-coil was part of the apparatus.

Q. 12. The same question as to Exhibit No. 9, order No. 58, C. A. Arthur line.

A. This order calls for the equipping of two private lines of five stations each. These lines were equipped with ten Edison transmitters with induction coils, ten magneto-receivers, and the necessary switching and signaling apparatus and batteries for ten stations. This was done before the night of August 10th, 1878.

Q. 13. The same question as to Exhibit No. 8, order No. 52, J. H. Banker line.

A. Two Edison transmitters, with induction coils, and two magneto-receivers, and the necessary switching and signaling apparatus and batteries, were connected at the two stations named in the order before the night of June 29th, 1878.

Q. 14. The same question as to Exhibit No. 7, J. S. Rockwell line.

A. The answer is verbatim the same as the last, except the date. The date is August 9th, 1878.

Q. 15. The same question as to Exhibit No. 6.

A. Exhibit No. 6 is not a private-line order. It is a telephone-exchange order to connect a single office with the company's central office at 198 Broadway. An Edison transmitter, a magneto-receiver, and the necessary switching and signaling apparatus and batteries were connected at the office named in the order before the night of August 3d, 1878.

Q. 16. Please explain what you mean by the term "private line" and "telephone-exchange."

A. A private line connected 2 or more offices for intercommunication among themselves only, without the intervention of an exchange, and was for the exclusive use and business of the lessee who leased his line and apparatus from the company. A telephone-exchange line connected one office with the central office or telephone-exchange, and at the request of any subscriber any line could be switched into temporary connection with any other line connected with the exchange.

Q. 17. How soon can you say the C. L. Wright & Co. line, referred to in your answer to question 11, was finished and in good working order?

A. July 23d, 1878.

Q. 18. Did it depend upon you to fix the day from which the charge for service should be made?

A. It did, but with this modification, that while there might be reasons for charging from a later date, the charge was never made from an earlier date than the date indicated in my report on these orders.

Q. 19. In what condition were the instruments and line to be at the dates reported charged?

A. In perfect working condition.

Q. 20. Give the terminals of the C. L. Wright & Co. line, and, if you can do so, illustrate by an off-hand sketch or diagram the connections and equipments of the line and the number and kind of instruments for transmitting and receiving messages at each end.

A. I have marked on the sketch submitted the two terminals of the private line of C. L. Wright & Co. The apparatus was identical at both terminals, and it included at both terminals T, an Edison transmitter; R, a magneto-receiver; IC, an induction-coil; B, a battery; G, a ground-wire connection, and X a point at which switches to introduce the signaling apparatus were connected. L indicates the line-wire connecting the two stations. This was a closed-circuit line. The local battery was used for signaling.

(The sketch made by the witness in explanation of his answer is introduced in evidence and marked as Wiley's Exhibit Sketch of C. L. Wright line.)

Q. 21. How did the equipments of this line compare with those of the J. H. Banker line referred to in your answer to question 13?

A. They were practically the same.

Q. 22. State generally how the telephone lines in the private-line department were usually equipped prior to and subsequent to the C. L. Wright line.

A. Prior to the adoption of the Edison carbon transmitter, lines were equipped in which the transmitter was a magneto-telephone, a duplicate of the receiver, chiefly of the Phelps pattern. The lines using the Edison transmitter, such lines as those named in Exhibits 7 to 11, orders for telephones, were equipped in the manner indicated in the rough sketch just submitted. This was our regular, ordinary, usual way of connecting lines using Edison transmitters with induction-coils in closed circuit.

Q. 23. Who is the C. A. Arthur referred to in order No. 58, Butler's Exhibit No. 9?

A. He was then collector of the port of New York and has since died.

Q. 24. Have you here present any books kept by you or under your direction in the summer of 1878 which have entries relating to the several telephone lines under consideration, or any of them, and, if so, will you produce such books for the inspection of counsel, and will you permit the magistrate to copy and verify portions thereof upon the record?

A. I have the old Gold and Stock Telegraph Company's private-line-department statistic-book No. 2. It contains a record of several, and perhaps all, of the lines named in the orders just considered. I produce the book for such inspection and copy as you suggest.

Q. 25. On page 166 of this book I notice there are entries relating to the J. H. Banker line. Please read and explain the entries.

A. After the printed word "Lessee" is the written name J. H. Banker, which indicates that the line was built for him. After the printed word "Offices" is written "Irvington, N. Y.," which was the location of the two offices of this line. After the printed words "Line working all right" is written "June 29th, 1878," which indicates that the line and telephones were at that time in perfect condition for use. After the printed word "Instruments" is written the word "Telephones." The entry does not indicate the kind of telephones used. After the printed word "Route" is written the details of the route of the line. Under the printed words "Items of cost of line, equipments, etc.," is written the details of such cost.

Q. 26. On page 169 of the same book there are entries relating to the C. L. Wright & Company's line. Please explain these entries.

A. After the printed words "No. of contract" is written "285." This is the consecutive number of the contract made through the secretary's office. After the printed word "Lessee" is written "Charles L. Wright & Co." After the printed word "Offices" is written "56 South st., Eagle pier, Hoboken." After the printed words "Line reported finished" is written "July 20th, 1878," which indicates that the line-wire was at that date ready for the telephone connection. After the printed words "Charge from" is written "July 23d, 1878," which indicates that on July 23d the line and telephones were in perfect working order ready for use. After the printed word "Instruments" is written "2 hand phones;" these were magneto-receivers. "2 transmitters;" these were Edison carbon transmitters. "2 induction-coils;" these were part of the usual equipment with Edison transmitters. "2 call-boxes" for signaling. After the printed word "Route" the details of the route are given. Under the printed words "Items of cost of line, equipments, etc.," details and totals of such items are given. The telephonic equipment of this line is covered by Butler's Exhibit No. 10, record No. 56.

Q. 27. Please make a similar explanation, without going into details, in respect to the entries on pages 170 and 171, referring to the

C. A. Arthur lines, and page 172, referring to the health-department line.

A. On the three pages you indicate the entries show for whom the lines were built; where they were built, that is to say, what stations they connected; when the line-wire was reported finished; when the apparatus was put in; at what date the line should be charged for, that is, at what date the monthly rental should begin; the number and kind of telephone; the route of the lines, and the cost of lines and equipment. The lines of C. A. Arthur, pages 170 and 171, are the same lines referred to in Butler's Exhibit No. 9. The line of the health department, page 172, is the same line referred to in Butler's Exhibit No. 11.

The entries from the several pages of the book referred to by the witness are as follows:

No. of contract, ———. Term, ———. Date, ———, 1878. Lessee, J. H. Banker. Offices Irvington, N. Y. To be finished and working in ——— days. Notified chief constructor ———, 1878. Line reported finished ———, 1878. Battery and cases sent out ———, 1878. Batteries set up ———, 1878. Instruments put in ———, 1878. Line working all right June 29th, 1878. Charge from ———, 1878. Instruments, telephones. Route, from W. U. office, on W. U. poles, to point opposite residence; then on 3 trees to residence. Length of line, ———.

Items of cost of line, equipment, &c.

	New.	Old.
$\frac{7}{8}$ mile No. 9 gal. wire	\$25.28	
150 feet office wire	1.12	
33 brackets (\$1.65) and glass ins., (\$2.64)	4.29	
66 " and nails	.11	
3 hooks, .57; 14 knobs and screws	.78	
50 ft. copper kerite wire	2.25	
Labor, 4 linemen, 1 day	12.00	
" 1 " $\frac{1}{2}$ "	1.50	
" 1 inspector, $\frac{1}{2}$ "	1.50	
" 1 batteryman, $\frac{1}{2}$ "	1.00	
8 cells, No. 2 Edison batt'y	7.20	
Total	57.03	

No. of contract, 285. Term, ———. Date, ———, 1878. Lessee, Charles L. Wright & Co. Offices 56 South street, Eagle pier, Hoboken. To be finished and working in ——— days. Notified chief constructor ———, 1878. Line reported finished July 20th, 1878. Battery and cases sent out ———, 1878. Batteries set up ———, 1878. Instruments put in ———, 1878. Line working all right ———, 1878. Charge from July 23d, 1878. Instruments, 2 hand phones, 2 trans., 2 indu. coils, 2 call-boxes, batteries. Route, from 56 South street to Old Slip, Water, Whitehall, Bridge, State, Battery Place, Washington, Albany, West, to pier 18, cond'r 2-in. phone cable; then from Cunard dock to Pearl and Greene on W. U. wire; then Manhattan to Jersey ave. and 10th street; then new branch to Grand and 3d street; then 3d to N. R. to office. Length of line, ———.

Items of cost of line, equipment, etc.

	New.	Old.
1½ miles wire, ½ mile leased of W. U. Co. on W. U. poles, Cunard dock to Pearl and Greene		\$150. 00
2 miles No. 9 gal	\$57. 80	
66 4-in. arms, (\$26.40;) 66 6-in. bolts and washers, (\$2.64).....	29. 04	
135 6-in. spikes, (.90;) 264 glass ins., (\$21.12).....	22. 02	
1 Brooks, (.38;) 4 hooks, (.76)	1. 14	
1½ miles No. 9 gal. wire, poles, N. Y		125. 00
3 hooks, (.57;) 10 knobs and s., (.15).....	. 72	
150 ft. office wire, (1.12;) 20 ft. kerite copper.....	2. 02	
Labor, linemen, 5 men, 2 days	30. 00	
“ insprs., 1 man, 5 hours	2. 50	
“ batt’ymen	1. 00	
Battery, 4 cells, No. 2 Ed	3. 61	
Total.....	\$149. 85	\$275. 00

CHANGES.

Jan’y 1st, 1879, name changed to Sanderson & Son, 39 So. William street, Eagle pier, Hoboken. Length, ———. Route, from 39 So. Wm. along Broad to Beaver; then Beaver to Morris; then Morris to Washington, Albany, West, to pier 18, cond’r 2-in. cable 36; then Cunard dock, J. C., to Pearl and Greene on W. U. wire; then to Jersey avenue and 10th street on old Manhattan poles; then new branch to Grand and 3d street, then 3d to office on Eagle pier, Hoboken. Cost of construction, \$32.85. Bill, 27.66.

May 13th, 1879, removal from Eagle pier, Hoboken, to Cunard dock, J. C. Route, from present wire at cable-box, J. C., direct to Cunard dock.

May 1st, 1881, removed back to Eagle pier, Hoboken, N. J. Route, from cable-box, J. C., cable-box to poles York, Greene, Morgan, Provost, Railway ave., 10th street, to Jersey avenue, then to pier. Length, 5 miles.

No. of contract, 287. Term, ———. Date, ———, 1878. Lessee, C. A. Arthur, No. 3. Offices custom-house to 12 Hamilton ave., Brooklyn; Roberts stores, do.; 175 South street, N. Y.; 612 Grand street, N. Y. To be finished and working in ——— days. Notified chief constructor ———, 1878. Line reported finished July 25th, 1878. Battery and cases sent out ———, 1878. Batteries set up ———, 1878. Instruments put in August 9th, 1878. Line working all right August 10th, 1878. Charge from August 10th, 1878. Instruments, 5 sets Edison telephones, batteries. Route, from custom-house to poles at Water and Wall, then Wall, Front to Roosevelt (loop into cor. South and Roosevelt), then Front, James slip, Cherry, Corlear (loop into 612 Grand), then Corlear, Cherry, Jackson to cable, then Hudson avenue, Plymouth, Main, Water, Furman (loop into Roberts stores), then Furman, Atlantic avenue, Columbia, Van Brunt, Sackett street, to 12 Hamilton avenue. Length of line, 5 3-10.

Items of cost of line, equipment, etc.

	New.	Old.
$\frac{1}{2}$ mile No. 11 gal. wire on housetops, N. Y.....	\$11.80	
$2\frac{1}{4}$ " " 96 " " " poles "		\$225.00
$\frac{1}{8}$ " " 11 " " " housetops, Brooklyn	2.95	
$1\frac{7}{8}$ " " 9 " " " poles, "		165.00
$\frac{3}{8}$ " " 9 " " " " "	10.83	
$\frac{1}{8}$ " " 9 " " " " "		11.00
$\frac{1}{16}$ mile bare coal wire " housetops, "		4.68
$\frac{1}{16}$ " No. 11 gal. wire " " "	1.47	
2 Brooks, 76c; 7 knobs and screws, 11c	.87	
2 2-wire cleats	.06	
45 ft. office wire, 34c; 15 ft. kerite, 69c	1.03	
155 ft. " "	1.16	
16 ft. kerite wire	.72	
10 2-wire cleats and screws	.30	
2 blocks, 30c; 2 boards, 1.40; 2 uprights, 3.20	4.90	
1 arm, 37c; 14 spikes, 10c; 9 hooks, \$1.71	2.18	
5 knobs and screws, 8c; 2 brackets, 10c, and glass, 16c; 2 Brooks, 76c	1.10	
Labor, 2 linemen, $\frac{1}{2}$ day	3.00	
" 3 " $2\frac{1}{2}$ "	22.50	
" 1 insp'r, $4\frac{1}{2}$ hours	2.25	
" 1 batteryman, $1\frac{1}{2}$ days	3.00	
Battery, 20 cells, No. 2 Edison complete	18.00	
Total	\$88.12	\$405.68

CHANGES.

Sep. 4th, '78, name changed to E. A. Merritt.

Oct. 1st, '78, office at 612 Grand street discontinued.

Feby. 11th, 1881. Route, from custom-house to poles at Wall and Water st., then Wall, Front to Roosevelt (loop into 175 South), thence to cable at Roosevelt street, thence test-room G. & S. pole, Furman street, loop into Roberts stores, then Furman street, Atlantic avenue, Columbia, Van Brunt street, Sackett street, to 12 Hamilton avenue. $2\frac{4}{10}$.

Nov. 1, 1881, pony browns substituted for duplex.

Aug. 10th, 1881, new contract made in the name of collector U. S. customs, No. 3. Offices as follows, viz: custom-house, 118 South street, Wall street stores, Brooklyn, and 12 Hamilton avenue, Brooklyn. Line equipped with "Bell" telephones.

April 17th, 1886, name changed to col. U. S. customs, No. 3.

Nov. 9th, 1887, removal from 118 South st. to barge office.

" " " " " 12 Hamilton ave. to 18 India wharf.

New route, from the barge office, by W. U. poles, to pole at Whitehall st., housetops, to Broad street, along Broad street to Beaver street, to William street, Exchange Place, to office at custom-house, to Wall st. poles, to Front st., to 180 South street, to Brooklyn, to Furman street, to office, Wall street stores, Columbia street, Congress street, to Congress stores, back to Columbia street, to Harrison street, to Van Brunt, to Hamilton avenue, to office at 18 India wharf. Used 1,000 ft. No. 12 wire, 1 hook, 4 men, 3 hours. Foreman, Feeney.

July 18th, 1889, removal from Wall street stores to 7 Fulton street, Brooklyn.

No. of contract, ——. Term, ——. Date, ——, 1878. Lessee, health department, N. Y. Offices 301 Mott st., N. Y., 51 East 25th street, 56 East 34th st., 50th st., and 4th ave., 51 East 54th street. To be finished and working in —— days.

Notified chief constructor ———, 1878. Line reported finished August 6th, 1878. Battery and cases sent out August 10th, 1878. Batteries set up August 10th, 1878. Instruments put in August 10th, 1878. Line working all right August 13th, 1878. Charge from ———, 1878. Instruments, 5 sets Edison telephones, batteries, blue vitriol. Route, from 301 Mott street along Bleecker to Bowery, to 8th street, then 3d avenue to 23d street, 23d st. and 24th st., to 4th ave., with office 51 East 25th street, then 4th ave. to 34th street, with office 56 East 34th street, then 33d street to 3d avenue, 3d avenue to 50th street, then 4th avenue to 53d street, then direct to office at 51 East 54th street. Length of line, 3 7-16.

Items of cost of line, equipment, etc.

	New.	Old.
3 ³ / ₈ miles No. 11 gal. wire on housetops	\$79.65	
¹ / ₁₆ " bare coal " "		\$1.19
9 7-ft. arms cut up into blocks	3.78	
12 boards, \$8.40; 150 spikes, \$1.00; 30 brackets, \$1.50	10.90	
11 uprights, \$17.60; 80 bracket nails, 13c	17.73	
39 Brooks, \$14.82; 54 hooks, \$10.26	25.08	
16 knobs and screws, 24c; 23 2-wire cleats and screws, 69c	.93	
250 ft. office wire	1.87	
58 ft. kerite copper wire	2.61	
Labor, 22 linemen, 1 day	66.00	
" 5 inspectors, 1 hour each	2.50	
" 1 batteryman, 7 hours	3.50	
20 cells, No. 2 Edison battery, at 90c	18.00	
Total	232.55	1.19

No. of contract, 287. Term, ———. Date, ———, 1878. Lessee, C. A. Arthur, No. 2. Offices custom-house to 184 Christopher street, N. R.; 303 West street; 6 State street; 115 West street. To be finished and working in ——— days. Notified chief constructor ———, 1878. Line reported finished July 25th, 1878. Battery and cases sent out ———, 1878. Batteries set up ———, 1878. Instruments put in August 9th, 1878. Line working all right August 10th, 1878. Charge from August 10th, 1878. Instruments, 5 Edison desk sets telephones, batteries. Route, from custom-house direct to Old Slip and Water street poles on housetops, then poles on Water (with loop on housetops to barge office, No. 6 State street), Water and Whitehall to Bridge, State, Battery Place, Washington, Albany, West (loop into 115 West street), then West to do. 303, then along West to Christopher street office. Length of line, 3 miles.

Items of cost of line, equipment, etc.

	New.	Old.
2 miles No. 9 gal. iron wire on poles		\$200.00
⁷ / ₁₆ " " " " " " " "	\$12.64	
⁵ / ₁₆ " No. 11 " " " " " " " "	5.37	
365 ft. office wire	2.74	
65 feet kerite copper, \$2.92; 2 brackets, 10c; 8 glass, 64c	3.66	
15 2-wire cleats and screws, 45c; 2 Brooks, 76c	1.21	
14 hooks, \$2.66; 22 knobs and screws, 33c	2.99	
5 blocks, 75c; 15 spikes, 10c	.85	
Labor, 9 men, 1 day	27.00	
" 1 inspector, 4 ¹ / ₂ hours	2.25	
" 1 batteryman, 1 ¹ / ₂ days	3.00	
Battery, 20 cells, No. 2 Edison complete, at 90c	18.00	
Total	79.71	200.00

CHANGES.

Sept. 4th, '78, name changed to E. A. Merritt.
 Oct. 1st, 1878, office at 115 West street discontinued.
 Feb. 3d, 1879, addtl. office at 73½ West st., N. Y.; loop from present line at 73½ West st.; add 1-10 mile, 1 Ed. tel., No. 25.
 Aug. 10th, 1881, new contract made in the name of collector U. S. customs, No. 2. Offices as follows, viz: custom-house, 6 State street, 86 West street, 303 West street, foot of Christopher street.
 May 1st, 1882, removal from 303 West to 343 Spring street.
 Jan'y 4th, 1882, removal from 6 State street to new barge office.
 Jan'y 4th, 1882, route of wire changed to foot Whitehall street on W. U. poles and back again, taking the old wire at Water and Whitehall street.
 May 1st, 1884, removed from 384 West street to 365 West street.
 April 17th, 1886, name changed to col. U. S. customs, No. 2.
 Sept. 8th, 1886, removal from 86 West street to Congress street, Brooklyn.
 Sept. 1, 1888, rebuilt line from custom-house to barge office; 1 coil No. 12 iron wire, 10 screw-eyes, 5 men, ½ day each. McCauley.

Q. 28. Have you any other "orders" similar to those already produced and concerning which you have testified, and, if so, will you produce them?

A. I produce five orders, all for telephones for the American District Telegraph Company of New York.

Q. 29. Please explain what the several orders referred to mean.

A. They are all instructions to me to furnish telephones of the kinds indicated on the orders. The telephones were furnished by me to that company not later than the dates indicated just above my signature after the printed words "Charge from." The American District Telegraph Company had its own lines. In this case my duty was to deliver the telephones in good condition ready for use. This was done not later than the dates indicated.

Q. 30. Do you recognize the signatures on these orders?

A. I do; all of them. The written words "June 27th, 1878," after the printed words "Charge from," and the number "79" after the words "Record No.," and the signature just following these, are all in my own handwriting. The written words "July 25th, 1878," after the printed words "Charge from," and the written number "63" after the printed words "Record No.," and the signature just following these, are all in my own handwriting. The written words "August 22d, 1878," after the printed words "Charge from," and the written number "80" after the printed words "Record No.," and the signature just following these, are all in my own handwriting. The written words "August 26th, 1878," after the printed words "Charge from," and the written number "81" after the printed words "Record No.," and the signature just following these, are all in my own handwriting. The written number "82" after the printed words "Record No." and the signature just following it are in my own handwriting. The date "September 6th, 1878," after the printed words "Charge from," is in a handwriting I cannot now identify. In making this answer I have referred to the several order-slips in the consecutive order in which they are attached together.

Q. 31. When did you make these entries and sign the several slips as you have stated?

A. On or about the dates written after the words "Charge from."

Q. 32. Do you recognize any other signatures on these slips?

A. On each of the five slips I identify the initials and handwriting "J. D. R.," which means J. D. Reid, secretary, and "J. C. M.," which means J. C. Massa, collector.

Q. 33. What instruments were referred to and designated in these slips, after the printed words "No." and "Kind," as "Edison" and "Phelps hand?"

A. The Edison was the Edison carbon transmitter. The Phelps hand was the Phelps duplex receiver.

(The several slips attached together in the order referred to by the witness are offered in evidence and marked Wiley's Exhibit, American District Company's orders.)

Q. 34. What, if anything, did you have to do with the construction of the lines referred to in your testimony, or any of them?

A. The construction of all of the line leased from the Gold and Stock Company in New York was done under my instructions and supervision. The American District Company was a telegraph company owning and constructing its own lines.

Q. 35. When did you first know of the Edison carbon telephone in the form in which you caused it to be put upon the several lines referred to in your testimony?

A. As early as May, 1878.

Q. 36. What was the condition of the Edison carbon transmitter at that time as to its fitness for use for commercial purposes?

A. It was fit for commercial purposes and a complete practical instrument.

Q. 37. How did the Edison carbon transmitter, of which you had knowledge during the months of May and June, 1878, compare with such transmitters as they were subsequently used for commercial purposes during the year 1878 and thereafter?

A. The carbon transmitter was practically the same then and thereafter. The chief differences in apparatus related to the switching and signaling parts of the apparatus.

Q. 38. Did you know Thomas A. Edison in May, 1878?

A. Yes.

Q. 39. Can you identify by any of the instruments here present the Edison carbon transmitter which went into commercial use in the summer of 1878?

A. I can. I identify Chandler's Exhibit No. 8, Batchelor's Exhibit No. 1, Edison's Exhibit No. 1. These three are almost identical in every respect with instruments which I saw in May and June, 1878. Batchelor's Exhibit No. 2, arranged to fit a jointed arm, came into use a little later than the others, but I can't fix the exact date.

Q. 40. Please look at the cut and description on page 226 of the Journal of the Telegraph for August 1st, 1878, and state if the instrument represented in figure 5 corresponds with the Edison carbon transmitter of which you have knowledge in May and June, 1878, and whether or not the description of said cut is correct.

(Question objected to as incompetent and leading.)

A. It is correct. It does correspond with the instruments I have just identified.

(The cut and description shown the witness are contained in volume 11 of the Journal of the Telegraph for 1878, here present from the library of the United States Patent Office, and notice is given that the said cut and description in the said volume will be referred to at the hearing.)

Q. 41. Did you make use of any telephones received from Edison in the summer of 1878, and, if so, how early?

A. Yes, as early as May.

Q. 42. Did you have knowledge of the exhibition-room of the Gold and Stock Company at 195 Broadway in the summer of 1878, and, if so, what was its purpose and what was done there?

A. I had. Telephones of various kinds were arranged around the room. The purpose of the room was to exhibit the working of these telephones to possible customers. We exhibited the telephones connecting them for the purpose on several lines running from that office to other places. We had lines from there connecting, as I remember, the following three places: 61 Broadway, New York, 198 Broadway, New York, 23d street and Broadway, New York.

Q. 43. Did you know George Walker?

A. Yes; he was vice-president of the Gold and Stock Telegraph Company.

Q. 44. Is he alive or dead?

A. He is dead.

Q. 45. Did you ever see the Edison carbon telephone of the character referred to in your testimony at this exhibition-room?

(Objected to as leading.)

A. Yes.

Q. 46. At how early a date?

A. I cannot fix the date. I remember that we exhibited the Edison carbon telephone to delegates to an American District Company meeting or convention of superintendents in New York, which must have been in 1878; I cannot say what month.

Q. 47. Were you present at this exhibition?

A. I was.

Q. 48. What was done?

A. A general exhibition of the telephones was made for the benefit of these delegates.

Q. 49. What instruments were exhibited at the time of this visit?

A. It was a general exhibition and included the Edison carbon transmitter. I remember that a feature of the exhibition was the exhibition of the Edison carbon transmitter in comparison with the magneto, to show how complete and perfect an instrument we had.

Q. 50. Were the Edison transmitters operated on this occasion, and, if so, with what results?

A. They were, and the results were satisfactory.

Q. 51. To your knowledge was there more than one convention of American District Telegraph superintendents held during the year 1878 at which the Edison instruments were exhibited?

A. I remember only one.

Q. 52. The Journal of the Telegraph for July 1st, 1878, in the bound volume shown you in answer to a previous question, and on page 199, contains an article referring to a convention of American District Telegraph superintendents and general managers, in which it is stated that "the first day was spent in discussions upon various subjects before the convention, and upon invitation of Hon. George Walker, executive manager of the Gold and Stock Telegraph Company, in a visit to the headquarters of that company and an inspection of its telephone system." Please read the article and state if you recollect any of the circumstances recited therein.

(Question objected to by counsel for Drawbaugh as in itself irregular and improper, containing as it does a volunteered statement of facts not proven, and bearing evidence upon its face of an attempt to lead, instruct, and direct the witness concerning matters and dates of which he has heretofore stated he has no recollection.)

A. I recollect a visit such as that referred to in the article. I recollect that some of the people named in the article were present as visitors.

Adjourned to 10 a. m., Friday, March 14, 1890.

ASTOR HOUSE, NEW YORK,
March 14th, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF MR. WILEY—Continued.

(The article shown the witness is contained on pages 199 and 200 of the Journal of the Telegraph for July 1, 1878, volume 11 of the bound volumes from the Patent Office library, and notice is given that said publication will be referred to at the hearing.)

Q. 53. In your answer to question 13 you state that 2 Edison transmitters with induction-coils and 2 magneto-receivers, etc., were placed upon the J. H. Banker line referred to in order No. 52 before the night of June 29, 1878. Who was this J. H. Banker, and where is he, if you know?

A. I recollect Banker as a director in the Western Union Telegraph Co. and the American Speaking Telephone Company. I believe he is dead.

Q. 54. What is the signification of the letters "D. H." after the words "rate per month" on order 52?

A. They mean dead-head, or free.

Q. 55. When were the entries in the statistic-book No. 2, concerning which you have testified and which have been copied into the record, made?

A. The entries were made soon after the dates indicated. I do not know how soon, but in the ordinary course of business.

Q. 56. By whom were the entries made?

A. Almost without exception by a clerk named M. B. Medler.

Q. 57. Please look at the book now shown you, marked upon the fly-leaf "P. L. D., Room 47," and state if you recognize it and what it is.

A. I recognize it. It is the old private-line-department telephone ledger. It is a record of telephones and telephonic apparatus only.

Q. 58. By whom was this book kept and for what purpose?

A. It was kept under my direction by the same clerk named before, for the purpose of making a record of the names of subscribers using telephones, the kinds of telephones they used, and the dates at which they began and ceased to use them. It was also a record of telephones received by the private-line department, showing the number and kinds and the dates received.

Q. 59. State whether or not this book has any reference to or entries concerning the "orders" referred to in your testimony.

A. It has reference to all of them.

Q. 60. State whether or not you find any entries relating to the J. H. Banker line concerning which you have already testified, and, if so, please read the entries.

A. On page 4 I find under the heading "Regular orders" "Order No. 52" and "Progressive No. 52." Under the printed heading "Name" is written "J. H. Banker." Under the printed heading "Phelps hand No. 1" I find written the number "2," indicating that 2 Phelps hand-phone receivers of the style known as No. 1 were furnished. Under the printed heading "Phelps call, D. O. S., Oct.," I find written the figure "2," indicating that 2 call-boxes with the double switch and octagon shape were furnished. Under the printed heading "Edison transmitters" I find written the figure "2," indicating that 2 Edison transmitters were furnished. Under the printed heading "Edison induction-coil" I find written the figure "2," indicating that 2 Edison induction-coils were furnished. Under the printed heading "Date delivered" I find written the date "June 29th." Under the printed heading "Date to charge" I find written "June 29th." At the head of this page over these dates is written the year date "1878." Under the heading "Rate," which means monthly rental rate, I find a symbol which means dead-head.

(Counsel for Drawbaugh objects to the testimony purporting to be based upon the record-books referred to in the examination of this witness unless said books are introduced in evidence. The objection is made at this time for the reason that counsel was under the impression that the books were the property of or under the control of the Western Union Telegraph Company.

During the examination of Messrs. Scott and Butler certain record-books were referred to and copies made therefrom to which objection was made, and in response thereto counsel for Drawbaugh was informed by counsel for the Patent Office that the records were under the control of the Western Union, whose officers refused to allow the books to be taken from their custody, but would at all proper times and for the purposes of this case permit counsel for Drawbaugh to examine said records. This offer was confirmed by Mr. Buckingham of the Western Union Telegraph Company, who stated to counsel for Drawbaugh that the books and records referred to in this testimony, and which were the property of or under the control of the Western Union Telegraph Company, would be produced and submitted to inspection and for the purpose of adducing evidence in explanation or rebuttal, if so desired. It now appearing that the books and records referred to by the witness Wiley do not belong to or are not under the control of the Western Union Telegraph Company, objection is now made to any testimony based upon or involving the matters appearing of record in said books, or either of them, unless the books are introduced regularly in evidence.

Counsel for the Patent Office states that the books referred to by this witness are not under his control, and, as he is informed, are the property of the Metropolitan Telephone and Telegraph Company, from whom the witness states that he borrowed the statistic-book No. 2.

The telephone ledger has been simply loaned to counsel for use in this proceeding. Such books are used, however, with the general understanding that said company will afford counsel for Drawbaugh full opportunity to inspect the same, if found necessary hereafter in adducing explanatory evidence.)

Q. 61. Will you state who has had possession of these books, as far as you know?

A. As an employé of the Gold and Stock Telegraph Company, they were in my custody up to the time of the consolidation of the Gold and Stock Company's private-line and telephone department with the Bell Telephone Co. of N. Y., thus forming the Metropolitan Telephone and Telegraph Company of New York, which date, as I remember it, was May 1st, 1880. They were in my possession as an employé of the Metropolitan Company until about June 1st, 1882, at which time I left that company and left the books.

Q. 62. I find that further on in this book, called the telephone ledger, what purports to be a stock account. Please explain what this means.

A. The stock account begins at page 100 and shows on the even-num-

bered pages the receipts by the private-line department of the Gold and Stock Company of telephones and telephonic apparatus, the dates of receipts, the places or persons from whom received, the numbers and kinds of telephones and apparatus, and indicated under headings similar to those set forth in my previous answer to the question referring to the Banker line. On the opposite odd-numbered pages, under the heading "Delivery," are given the dates of delivery, the order or contract number, the name of the person or firm to whom delivered, and the kinds of telephones or apparatus under similar headings to those last referred to. The same pages, that is to say, the odd-numbered pages, also show dates when telephones were returned from the customer to whom they had been sent. The pages bearing the even numbers in connection with the pages bearing the odd numbers made a debit and credit account for the private-line department.

Q. 63. Please read the entries on page 101 against the names W. H. Jordan and E. W. Andrews.

A. Under the heading "1878," under the subheading "Date," I find written "March 22d." Under the heading "Order or contract number" the number "7." Under the heading "Name" I find written "W. H. Jordan." Under the heading "Phelps hand" I find the figure "2." Under the heading "Phelps call, S. S. Oct.," the figure "2," indicating that on the dates named 2 Phelps hand receivers and 2 Phelps call-boxes were furnished to W. H. Jordan. Under exactly the same headings, against the name of E. W. Andrews, I find "April 13th, 16, E. W. Andrews, 2." The 2 indicates that 2 Phelps hand phones were furnished E. W. Andrews at the date named.

Q. 64. Please read the entries on page 103, referring to D. O. Mills and C. L. Wright & Co.

A. June 28th, 1878, No. 55, D. O. Mills, 2 Edison transmitters, 2 Edison induction-coils, 2 Edison sounders," and date "July 22d, 1878, No. 56, C. L. Wright & Co., 2 Phelps hand phones, 2 Phelps call-boxes, 2 Edison transmitters, 2 Edison induction-coils." Under the heading "Date returned" "December 1st, 1878."

Q. 65. Please read the entries on page 104 under dates of June 24th and 25th, 1878.

A. Under the heading "Name" and "Received from" I find written "Supt. Scott," indicating that I received from him on June 24th, 1878, which date is written just before his name, the following apparatus, namely: "2 Phelps hand receivers, 2 Phelps combination sets, 2 Edison receivers, 8 Edison transmitters, 8 Edison induction-coils, 2 Edison sounders," and under the heading "Name received from" I find after the date June 25th, 1878, ditto-marks under the words "Supt. Scott," indicating that I received from him on June 25th the instruments following that date, namely, "2 Edison transmitters, 2 Edison induction-coils."

Q. 66. Please state if you find any entries corresponding to the "orders" number 63 on your Exhibit Am. District Telegraph Co. orders and Nos. 54 and 58, Butler's Exhibits Nos. 7 and 9 respectively.

A. I find entries for all of them on page 105 of this book. The entry referring to record No. 63 in my American District Telegraph Co. exhibit shows that on July 25th, 1878, I delivered to the American District Telegraph Company 3 Phelps hand receivers, and that on November 1st, 1878, one of these was returned. On the same page the entries referring to order No. 54, Butler's Exhibit No. 7, show that on August 7th, 1878, I delivered to J. S. Rockwell 2 Phelps hand phones and 2 Edison regular sets. On the same page the entries relating to order No. 58, Butler's Exhibit No. 9, show that on August 7th, 1878, I delivered to C. A. Arthur 10 Phelps hand phones and 10 Edison regular sets, and a pencil entry under "Date returned, 1878," shows that 2 regular sets and 2 hand phones were returned on October 1st.

Q. 67. Please read the entry on the same page referring to H. Frank.

A. The entry is "August 12th, 1878, No. 59, H. Frank, 2 Phelps hand phones, 2 Edison regular sets."

Q. 68. Do you find in the same book any entries of deliveries to the health department? If so, please read them.

A. I find on the same page, under the date "August 13th, 1878," "Order No. 60, health department, 5 Phelps hand phones, 5 Edison regular sets." The last figure 5 is erased by a lead-pencil mark and the figure 2 written above it under the same heading. Under the heading "Edison regular sets, back contact," the figure "3," indicating that on August 13th, 1878, were delivered to the health department "5 Phelps hand phones, 2 Edison regular sets, and 3 Edison regular sets with back-contact points." This delivery was made on the order called Butler's Exhibit No. 11.

Q. 69. Do you find any entries purporting to record deliveries of telephones to the American District Telegraph Company corresponding with your Exhibit American District orders, except the slip No. 63? If so, please read them.

A. I do; on page 107 I find entries corresponding with all my American District Telegraph exhibit, except the number 63, already read, as follows: "June 27th, 1878, American District Telegraph, 3 Phelps hand (phones), 2 Edison regular sets," and an entry indicating that the 3 hand (phones) were returned October 26th, 1878. And under date "August 22d, 1878, American District Telegraph, 2 Phelps hand (phones), 8 Edison regular sets," and an entry indicating that the 2 hand phones were returned October 26th. And under the date "August 22d, 1878, American District Telegraph, 1 Phelps hand (phone)," and an entry indicating that it was returned November 9, 1878. And under the date "September 6th, 1878, American District Telegraph, 8 Phelps hand (phones)." I find also an entry indicating that these 8 hand phones were returned October 31st, 1878.

Adjourned to March 15, 1890, 10 a. m.

No. 195 BROADWAY, NEW YORK,
March 18th, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF MR. WILEY—Resumed.

Q. 70. Do you find on this same page, 107 of your telephone ledger, any other entries purporting to record deliveries of telephones to the American District Telegraph Company?

A. I find on October 3d, 1878, "2 Phelps crown receivers," and on October 15th, 1878, "12 Phelps crown receivers."

Q. 71. I notice that the several entries of deliveries which you have read in your last two answers appear to be out of their order as to date—that is, telephones recorded as delivered of a later date are entered above those covered by your answer to question 69. Can you explain this?

A. I can offer two or three explanations, either of which might be correct. I do not know at this time how it happened. The American District Telegraph Company was a customer of a different class from almost all our other customers, and especial arrangement was made with that customer. That arrangement was not made at the time when the first telephone was sent them. As soon as it was made all the entries belonging to that account were written in. That is one explanation. It is entirely possible that it is correct. There is another: The clerk making the entry had, perhaps, a dozen order-slips before him; instead of arranging them chronologically he entered them as they happened to lie on his desk. The third is, the clerk who made the record, for the purpose of keeping track of his order-slips, entered the name of the customer or subscriber under its proper heading in the list, and did this immediately on receiving the order-slip and before the work was done, or the telephone put in or delivered, leaving only the date blank. Then as soon as the work was done, which might have been a week or a month later, he filled in the date.

Q. 72. I notice on page 106 of this book that there are entries purporting to record receipts of Edison telephones. Please read and explain these entries.

A. The entries are: "July 26, 1878, from supply department, 3 Edison regular sets, 10 Edison regular sets without sounders." "August 3d, 1878, from supply department, 25 Edison transmitters, 12 Edison regular sets." "August 1st, 1878, from supply department, 25 Edison transmitters." "August 2d, 1878, from Western Union factory, 2 Edison regular sets." "August 9th, from supply department, 9 Edison regular sets." "August 28th, from supply department, 16 Edison regular sets," and from the date September 4th, 1878, to September 24th, both inclusive, I find "2 Edison regular sets with back contact" received from Superintendent Scott, and "32 Edison

regular sets" received from supply department. On the date September 21st I find the entry "Received from Supt. Scott 2 experimental Edison telephones." I do not know what these were.

Q. 73. Please give the number and date of the receipt of the 32 regular sets referred to in your last answer.

A. September 5th, 2; September 7th, 2; September 9th, 2; 11th, 3; 11th again, 3; 12th, 2; 12th again, 3; 16th, 1; 16th again, 2; 16th again, 2; 16th again, 2; 17th, 2; 18th, 2; 20th, 2; 24th, 2. I omitted in my last answer but one the entry at the top of the page, which shows that there are brought forward from a preceding page the following entries, namely: "2 Edison receivers, 10 Edison transmitters, 10 Edison induction-coils, 2 Edison sounders."

Q. 74. Please compare these entries of telephones brought forward with what you find on the previous page, and give the date of the entry of the receipt thereof on said page.

A. The previous page for that side of the account is 104. I find by comparison that the brought-forward entries are brought forward correctly, and that the dates and the entries showing these receipts are: "September 24th, 1878, from Supt. Scott, 2 Edison receivers, 8 Edison transmitters, 8 Edison induction-coils," and "2 Edison sounders," and "September 25th, 1878, from Superintendent Scott, 2 Edison transmitters and 2 Edison induction-coils."

Q. 75. Please explain the entries on page 268 of this book.

A. Page 268 is the debit side and page 269 is the credit side of a separate account kept for the American District Telegraph Company telephones. Telephones delivered to them were entered on one page, and telephones returned by them on the opposite page.

Q. 76. Please read the first eight or ten entries on page 268.

A. "7, W. H. Jordan, 2 (Phelps hand), March 22, '78," (date delivered); "16, E. W. Andrews, 2 (Phelps hand), April 13th, '78," (date delivered); "63, A. D. T. Co., 3 (Phelps hand), July 25, '78," (date delivered); "A. D. T. Co., 1 (Phelps crown), April 14, '79," (date delivered); "92, A. D. T. Co., 3 (Phelps hand), 2 (Edison No. 25), June 27, '78," (date delivered); "93, A. D. T. Co., 2 (Phelps hand), 8 (Edison No. 25), August 22, '78," (date delivered); "94, A. D. T. Co., 1 (Phelps hand), August 26, '78," (date delivered); "95, A. D. T. Co., 8 (Phelps hand), September 6, '78," (date delivered); "96, A. D. T. Co., 2 (Phelps crown), October 3, '78," (date delivered); "99, A. D. T. Co., 12 (Phelps crown), October 15, '78," (date delivered); "163, A. D. T. Co., 6 (Phelps crown), November 7, '78," (date delivered); "A 40, A. D. T. Co., 6 (Gray No. 14), March 10, '79," (date delivered); "A 58, A. D. T. Co., 5 (Edison transmitters), June 23, '79," (date delivered).

Q. 77. In whose handwriting are these entries, and when were they made, if you know?

A. They are in the handwriting of M. B. Medler, at that time a clerk and operator in my office. I do not know when they were made. I

believe they were made on or about the dates indicated in the column headed "Date delivered." I wish to correct this answer. I believe these entries were made at a date somewhat later than indicated in the answer--perhaps three or six months later. I make this correction because I now remember after examining the book that this account was made up for the American District Telegraph Company after it was discovered that they were leasing so many telephones, which would not have been at as early a date as the earliest individual entries referred to in the previous answer, as to dates of delivery to American District Telegraph Company.

Q. 78. Were you personally familiar with the entries in the Gold and Stock Telegraph Company's private-line statistic-book No. 2, referred to in your previous answers, at about the time the entries were made?

A. I was.

Q. 79. Do you remember whether or not the exhibitions of the telephones referred to in your answer to question 42 resulted in orders for telephone service? and if so, state your recollection on this subject, giving names and dates, if you can.

(Question objected to as leading.)

A. I can recollect no names or dates in connection with it. My recollection is that it was a successful venture, and its object was to secure customers.

Direct examination closed.

Cross-examination:

X Q. 80. Please state when your connection with the Gold and Stock Company began and when it ended.

A. It began about June, '69, and ended at the time of the consolidation with the Bell Telephone Company of New York, which I think was May 1st, 1880. I was then transferred to the Metropolitan Telephone Company.

X Q. 81. Please state what your occupation has been since you left the Gold and Stock Company.

A. About two and a half years with the Metropolitan Company, about three years general manager of the Mexican Telephone Companies in the Republic of Mexico, about four and a half years eastern manager of the Standard Underground Cable Company, my present position.

X Q. 82. Are you at present in any way, directly or indirectly, connected with or interested in the Western Union or Gold and Stock Telegraph Companies or the American Bell Telephone Company?

A. No.

X Q. 83. Have you heretofore been requested or called upon to investigate the early history of the use and sale of Edison carbon telephones, to testify or sign affidavits or statements with reference thereto? If so, please state when, by whom, and for what purpose such investigation was made.

A. Yes; January 8th, 1881, or shortly before that date, when I gave

my testimony in the speaking-telephone interferences, then pending before the United States Patent Office, I testified in behalf of Mr. Edison.

X Q. 84. Is that the only time?

A. With the exception of this case it is, to the best of my recollection.

X Q. 85. When and by whom were you first approached on the subject of this case?

A. I believe by Mr. Dowell, in a letter from Washington. I cannot recall the date of the letter; it was several months ago.

X Q. 86. Has any one besides Mr. Dowell requested you to testify in this cause? If so, when and who was the person or persons?

A. Yes; Mr. Swan, who, I believe, is of the American Bell Telephone Company. This also was several months ago, but subsequent to the other.

X Q. 87. Did Mr. Swan give you to understand that your testimony was desired in behalf of any person or corporation? If so, please state generally the substance of any conversation or instructions you may have had on this point.

A. I do not remember that Mr. Swan ever, in so many words, told me for whom he wanted the testimony, but I took it for granted that it was for the American Bell Telephone Company. I had no instructions of any kind.

X Q. 88. Will you please name all the employes connected with the assistant superintendent's office which you occupied in the summer of 1878?

A. As nearly as I can remember the following; some of them may have left before that date, some may not have come until a little later: M. B. Medler, clerk and operator; J. R. Wiley, clerk; Frank Delaney, clerk; Charles F. Post, clerk and draughtsman; Charles H. Walton, inspector; J. E. Hamilton, inspector; Robert Henry, chief inspector; G. G. Waggner, inspector; Robert Carter, foreman of linemen. There were a number of other linemen and inspectors.

X Q. 89. Were all of the parties named employes of the private-line department?

A. Yes, to the best of my recollection.

X Q. 90. What is the business of the Standard Underground Cable Company?

A. To manufacture and sell electric wires and cables, especially for underground use.

X Q. 91. Are the goods made and sold by said company purchased and used to any considerable extent by the American Bell Telephone Company and the Western Union Company and its various branches?

A. The American Bell, no; the Western Union, yes.

X Q. 92. Do you regard the American Bell Company as prospective purchasers or users?

A. No; at present I do not.

X Q. 93. To your knowledge have any efforts been made or are there negotiations pending looking to the use of the goods manufactured by your company by the American Bell Company or its lessees?

(Objected to as improper cross-examination, irrelevant, and immaterial, and the witness is instructed that he is not obliged to disclose the private affairs of his company.)

A. Yes.

X Q. 94. Will you please state what records were kept by the private-line department, of which you were assistant superintendent, in which original entries were made concerning telephones, limiting your answer to such as were kept during the summer of 1878?

A. To the best of my recollection a telephone blotter or journal, a telephone-number book to record the numbers of the telephones, the telephone ledger already referred to, and private-line statistic-books. The telephone ledger and private-line statistic-books were to a much less extent books of original entry.

X Q. 95. Did you not on the 17th day of July, 1888, execute a certain affidavit relating to the early use of the Edison carbon telephone?

(Question objected to unless the witness is allowed to see the paper referred to. Counsel for Drawbaugh desired to call attention to the fact that his question did not have reference to any particular paper, and that the suggestion of counsel for the Office is entirely voluntary on his part and an interference with the proper rights of cross-examination, as it is an effort to instruct and lead the witness supposed to be under cross-examination.)

A. To the best of my knowledge and belief I did not; but Mr. Church has in his hands a paper which his actions seem to indicate is such an affidavit.

X Q. 96. Please look at the paper I now show you and state if you signed the same.

A. I did.

(The notary is requested to mark the affidavit referred to and shown the witness with her initials and the date for future identification.)

X Q. 97. Please read the affidavit which I now hand you and which has been marked for identification, and state whether you signed and executed the same. If so, at whose instance and for what purpose was the paper to be used?

A. I signed it and executed it at the request of Mr. W. W. Swan; I do not know, and I believe I never did know, for what purpose it was intended to be used.

X Q. 98. At the time you signed and executed that affidavit, did you make any investigation as to the facts recited therein?

A. Undoubtedly I did; but I do not recall what it was, except that I remember re-reading my former testimony in the speaking-telephone interferences.

X Q. 99. Did not Mr. Swan tell you for what purpose the affidavit was to be used ?

A. No ; I cannot recollect that he did.

X Q. 100. Where did you execute that affidavit ?

A. I think in the building 18 Cortlandt street, where my office is.

X Q. 101. Referring to your answer to X Q. 94, please state who had charge of and made the entries in the telephone blotter or journal.

A. I had charge of it. Entries were made by several clerks, and probably by myself. Up to a certain date, which I cannot fix, it was kept almost exclusively by Charles H. Walton.

X Q. 102. Please state the nature of the entries or records made in that book concerning telephones.

A. I am unable to state in detail, because as well as I can remember I have not seen the book for ten or twelve years ; but I recollect it as a general daily statement or report of work done day by day. It was a somewhat rough and less elaborate class of record than any of the others referred to.

X Q. 103. Who made the entries in the telephone-number book referred to in answer 94 ?

A. Different clerks, and sometimes I made them myself. The telephone-number book was a continuation of our old telegraph-printer book, which as a record of numbers of printing-telegraph instruments had long been in use. I do not know that in the summer of 1878 telephone numbers had yet begun to be recorded in that book.

X Q. 104. What was the nature of the entries or record made in that book and for what purpose was it kept ?

A. I believe it continued the old form of keeping the printing instrument number. I think it was a blank-book into which lines were ruled, and that each page carried about 20 consecutive numbers, beginning with the number 1 on the first page and extending up into hundreds. When an instrument was sent out the name of the subscriber and the location and the date were entered after the number. When the instrument was returned the words "on hand" and the date returned were written. I think the telephone-number book was abandoned after very short use and the individual numbers on the telephones not kept. To the best of my recollection I have not seen the telephone-number book nor the instrument-number book for about ten years.

X Q. 105. Were magneto as well as carbon telephones entered in this book ?

A. I should say yes, but I cannot remember.

X Q. 106. Who made the entries in the telephone ledger, when was it started, and for what purpose was it kept ?

A. The entries were made almost exclusively by M. B. Medler, whose handwriting I recognize in the telephone ledger before me. I am unable to fix the date when it was started. It was kept to make a record of telephones received and delivered, with names and dates.

X Q. 107. Was the telephone ledger started prior to the summer of 1878?

A. I should say it was not; I do not know.

X Q. 108. Were the entries in that book made according to any definite system having a reference more particularly to any series of numbers or the order in which the various accounts were recorded?

A. I remember three distinct series of numbers. I do not now know what relations they bore to each other or to the entries. The system of keeping telephone records in the early work was not uniform, and I think in May, 1878, there had not yet been time to make regular uniform systems of records and accounts for the telephone service.

X Q. 109. I ask you to state whether or not the entries in this book were made under consecutive serial numbers or in the order of the several dates of entry.

A. I think they were not made on either basis. There are several classes of records in this book.

X Q. 110. Please nominate the several classes of records referred to and state the purpose of each class.

A. One class is on pages 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, and 34. This class, I believe, is a copy of the telephone orders, and that on receipt of the orders by the private-line-department clerk he entered the name and some of the regular order numbers; I do not know which class of order numbers. After the telephones were delivered he then wrote in the kinds and dates and gave a new additional number.

Another class of record begins at page 13; then the odd-numbered pages to 33 inclusive, then all the pages from 35 to 98 inclusive, then from 150 to 249 inclusive are of the same class. Then from page 251 to 267 inclusive, except page 252, are of the same class. Then all the pages from 276 to 299 inclusive are of the same class. Then all the pages from 304 to 323 inclusive are of the same class. Then all the odd-numbered pages from 325 to 351 inclusive are of the same class. This class is a ledger account in which a page or part of a page is given to each subscriber. I do not recollect from what the entries in this class were derived.

A third class of entries begins at page 100 and ends at page 134. This is a stock account showing receipts and deliveries of telephones. Pages 131 to 134 inclusive are loose in the book. Pages 135 to 146 inclusive are missing.

Pages 147, 148, and 149 contain a fourth class of entry. These I do not recognize; they are headed "Instruments returned to American Bell Telephone Company." I do not recognize the handwriting.

Pages 268, 269, 270 contain a ledger account with the American District Telegraph Company.

Pages 274 and 275 contain a D. H., or free, account.

A seventh class of entries is a loan account, pages 300, 301, 302.

An eighth class begins on page 324 and extends to the end of the book on the even-numbered pages to page 397. This is headed "Merchants' Telephone Exchange," and is a record of telephones placed on lines connecting with central offices in contradistinction to private-line telephone. This class occupies a few of the odd-numbered pages also.

X Q. 111. Can you state positively of your own knowledge that the earliest records in each class named were original entries and not compilations from other records?

A. I cannot.

X Q. 112. Can you state positively of your own knowledge that all of the several record accounts referred to in your answer to question 110 were begun in that book as early as the 1st of August, 1878?

A. I cannot. I am absolutely unable to fix the date.

X Q. 113. Were the entries belonging to the first class mentioned in your answer to cross-question 110 all taken from what you term telephone orders?

A. I cannot say.

X Q. 114. From what source were the third class of entries, beginning on page 100, derived?

A. I am not sure; I think there was a memorandum blank receipts and deliveries pad used for this purpose. The deliveries may also have been made up from the regular telephone order-slips. The private-line requisition-book on the supply department was undoubtedly used for receipts entries.

X Q. 115. From what source were the entries of the fifth class, beginning on page 268, made up?

A. I cannot tell. They may have been made from the telephone order-slips.

X Q. 116. Was an entry made in the telephone ledger referred to of each and every telephone received or disposed of by the private-line department during the summer of 1878?

A. A record was intended to be made of them and all of them, with the exception that telephones sometimes came into the hands of the private-line department without being charged to that department. I believe all other telephones received or delivered were recorded in the ledger.

X Q. 117. What records were kept in the private-line statistic-books referred to in answer 94, by whom were the entries made, and what was the purpose of the record?

A. Private-line-department statistic-book No. 2 is one of such books, and it is before me now. The handwriting is very largely that of a clerk and operator named M. B. Medler. The object was to give details of the statistics relating to private lines as to dates, routes, apparatus, cost, etc. One double page was allotted to each line.

X Q. 118. Were any telephones put up or delivered by the private-line department for which an order-slip was not made out?

A. I cannot recall any instance.

X Q. 119. By whom were the order-slips retained?

A. They were returned by me to the secretary, sometimes through Superintendent Scott, but generally to the secretary. Beyond that I do not know.

X Q. 120. Please state through whose hands the order-slips passed, what entries were made in your department, and what in other departments.

A. I am entirely unable to answer for the other departments. The order-slips came to me from the secretary. Their substance was copied onto line blanks and telephone blanks, which blanks were given to linemen and inspectors, with instructions to do the work required. I think there was a running blotter kept in which the same information was copied and the order-slip handed to the clerk already referred to, Medler, for entry in the telephone ledger. This was the routine at a certain time, but I do not know what time, though it was early in the telephone business. After the work called for was done, the blanks referred to were filed, except the order-slip, which was returned to the secretary. In relation to my answer as to the sources from which the information in certain of the books referred to was obtained, I want to add that a series of blanks was used—line blanks, telephone blanks, statistic blanks, report blanks of various kinds—and that these blanks aided in the making of the entries.

X Q. 121. Was this system pursued with respect to all order-slips?

A. I think it was.

X Q. 122. Did the order-slips receive a number from your department? If so, what series did it belong to?

A. They did. They received the number called the record number, which, as I remember it, was a consecutive number in accordance with the date at which the line or apparatus was to be charged from. That number was part of the order-slip and was entered when the order-slip was entered. A number was entered into a blank space left for it on the order-slip.

X Q. 123. How was the serial number to be applied to an order-slip ascertained?

A. I think a running list was kept hanging on my desk for immediate reference in such cases.

X Q. 124. Are you positive that this was the manner in which the number was ascertained and applied to the order-slip?

A. I am positive that I kept the list and satisfied that it was ascertained and applied in this manner.

X Q. 125. Where on the order-slip was this number applied?

A. Just before my signature and on the same line.

X Q. 126. Did you personally assist in putting up telephones or telephone lines during the summer of 1878?

A. No.

X Q. 127. In your answer to question 10, you stated that before the night of August 14, 1878, you connected 5 Edison telephones and 5 Morse sounders at the five locations named in order-slip Butler's Exhibit 11. Did you personally do the work?

A. I did not, and I did not intend to give any such impression; and I do not believe the counsel received such impression. I did the work through men under my management and instruction.

X Q. 128. Have you any personal knowledge of the fact other than that of the reports rendered by your employés?

A. I remember that I went to Fourth avenue and 50th street on this line. I cannot say that it was on the date indicated on the order-slip, but it was about that date, and saw that the work had been done. I presume I tested the line and worked the telephone, but I do not remember this. This visit was one of many such as I made from time to time at different places to see that the work had been done, and had been properly done.

X Q. 129. In your answer to question 11, referring to Butler's Exhibit No. 10, you stated that you connected 2 Edison transmitters with the necessary receivers and signaling apparatus at the stations named in the order, and that you did it before the night of July 23, 1878. Will you please state whether, as a matter of fact, you personally did this work?

A. I did not personally do the work in this or in any of the cases referred to in my similar answers. In all cases I did the work by means of employés of my department.

X Q. 130. Have you personal knowledge of the fact that the instruments referred to in your answer 11 were actually placed on the line before the night of July 23, 1878?

A. I have not, except from my signature and entry on the order-blank.

X Q. 131. Have you any personal knowledge as to the time the apparatus mentioned in Butler's Exhibit No. 8 was put up in working order?

A. I have not, except from my signature and entry on the order-blank.

X Q. 132. In fixing the day or date from which the charge for service should be made was your action absolute or subject to modification?

A. It was subject to modification by my superior officers; so were all my official actions.

X Q. 133. Were there, from time to time, disputes growing out of the fixing by you of the date from which charges should be made?

A. I cannot recall any such.

X Q. 134. To whom would complaints of this kind be made?

A. I think to the collector, perhaps to the secretary.

X Q. 135. You have stated in answer to your question 21 that the equipment of the J. H. Banker line was practically the same as that of the C. L. Wright & Company line, as represented in Wiley's exhibit

sketch of C. L. Wright line. Do you know this to be a fact, or is it an inference?

A. I know it only from my records and signature.

X Q. 136. Please state what you find in the records and signature showing that the equipment of the Banker and Wright lines referred to were practically the same.

A. In the order-slips for both lines the words "2 Edison" written after the words "number" and "kind" and referring to telephones. To equip either or both of these lines with Edison telephones required practically the same apparatus, and my signature shows me that this was done.

Adjourned until Wednesday, March 19, 1890, 10 a. m.

NO. 11 WALL STREET, NEW YORK,
August 9th, 1890, 11 a. m.

Met pursuant to notice. Present, counsel as before.

EXAMINATION OF MR. WILEY—Resumed.

Owing to the inability of the witness to produce certain books used in the course of his direct examination, and the declination of the custodian of such books to deliver the same to the witness for the purposes of cross examination without specific instructions from his superior officers, the further examination of this witness is suspended until Monday, August 11th, at 12.30 p. m.

MONDAY, *August 11th, 1890, 12.30 p. m.*

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF MR. WILEY—Continued.

X Q. 137. In your answer to question 4 you state that the first Edison transmitter which you can remember as having been in commercial use was so used in June. Please state on what line or what instrument you have reference to?

A. The answer does not refer to any one individual Edison transmitter. I can only answer as to the line by reference to the records.

X Q. 138. What did you mean when you stated that you remembered it as having been in commercial use?

A. That I remembered that Edison telephones were in commercial use at that time.

X Q. 139. Did you in the month of June or July, 1878, personally inspect what has been herein termed "the J. H. Banker line" and its equipment?

A. No.

X Q. 140. To your knowledge were any entries made in the record-books of the Gold and Stock Company having reference to service mentioned on "order slips" prior to the time such slips were delivered to you?

A. I am aware that such records, if I properly understand the question, were made—that is to say, I am aware that on receipt of the slip, which was an order to do work, an entry was made which was a copy of as much of the slip as was finished, and that the remaining blanks in the slip after the work was finished were filled up and the record completed.

X Q. 141. Please look at the "old private-line-department telephone ledger," referred to in your answer to question 57, and state what the account appearing on pages 274 and 275 purports to represent.

A. It is the D. H., or free, account. It shows that telephones were placed for certain people whose names are given, and on the opposite side, that is, page 275, it shows the return of some of them.

X Q. 142. Please read all charges appearing on those pages in the name of J. H. Banker.

A. 2 Phelps hand phones, 2 Edison regular sets, date delivered September 17, '78, and all returned December 13, 1878, and 4 Phelps hand phones, 2 double-switch octagon call-boxes April 17th, 1878, and 2 Phelps hand phones, 2 No. 2 magneto call-bells, December 13th, 1878, delivered.

X Q. 143. Do you find in that account any entry corresponding to the order Butler's Exhibit No. 8?

A. No.

X Q. 144. Referring to page 8 of the same book, please read the entries appearing opposite "Progressive numbers" 88, 89, 90, and 91.

A. Regular orders, order No. 88, progressive number 88, record number 86; name, J. H. Starin, 1 Phelps hand phone, 1 Edison regular set, date of order September 26, 1878, date delivered September 30, 1878, date of charge October 2, 1878.

Regular orders, order No. 89, progressive number 89, record number 88; name, Hatch & Foote, 2 Phelps hand phones, 2 Edison regular sets, date of order September 26, 1878, date delivered October 5th, 1878, date to charge October 7th, 1878.

Regular orders, order No. 90, progressive number 90, record number 92; name, John A. S. Fisk, 2 Phelps hand phones, 2 Edison regular sets, date of order September 26th, 1878, date delivered October 8th, 1878, date to charge October 9, 1878.

Regular orders, order No. 91, progressive number 91, record number 94; name, Woodruff & McL., 4 Phelps hand phones, 4 Edison regular sets, date of order September 28, 1878, date delivered October 5th, 1878, date to charge October 11th, 1878.

X Q. 145. Referring to the accounts in which these entries occur, were the several entries original entries or compilations from some other memoranda?

A. They were compiled from some other memoranda.

X Q. 146. Were they compiled from the order-slips? If not, from what source were they obtained?

A. They were compiled, I am satisfied, either from the order-slips or from a rough telephone blotter, which I have previously referred to in my testimony.

X Q. 147. If an error were made in any one of the order-slips would it be more liable to occur as respects the date or the progressive and record numbers?

A. The number, because it is of less importance.

X Q. 148. Referring to the order-slips marked "Wiley's Exhibit American District Company's orders," I observe that the first slip bears progressive number 92 A 5, record number 79, and is dated June 27, 1878; the third slip bears the next succeeding number, to wit, progressive number 93 A 6, record number 80, and is dated August 22, 1878; whereas the second slip bearing progressive number 63 A 4 is dated July 25, 1878. Can you explain this apparent irregularity in the sequence of numbers as compared with the date?

A. It appears to me that an error was made by the secretary, who apparently copied the contract number into the blank left for the progressive number in slip whose contract number is 63, progressive number 63, and record number 63. It would be extremely unusual, if not the only case in which the contract number, the progressive number, and record number were identical; this is why it seems to be a mistake in the numbers.

X Q. 149. The entry on page 6 of this book appears to correspond to the slip No. 2, does it not?

A. It corresponds.

X Q. 150. The entries on page 8 corresponding to orders bearing progressive numbers 92 to 95, inclusive, are inserted out of their regular order as to date as compared with other entries on that page, are they not?

A. They appear to be out of order as compared with the seven preceding entries and in their regular order with relation to the rest of the page.

X Q. 151. The entry next succeeding the ones referred to bears order number 96, progressive number 96, record number 85. Will you please state what dates appear opposite that entry?

A. Date of order, September 30th, 1878; date delivered, October 3d, 1878; date to charge, October 3d, 1878.

X Q. 152. Please explain the entry on page 107 of the book opposite the date June 27, 1878; also state what that account represents.

A. It is a stock account, in which page 106 represents receipts and 107 deliveries of telephones. The entry referred to indicates that on the date named 3 Phelps hand phones and regular Edison sets were

delivered to the American District Telegraph Company, and that the 3 hand phones were returned October 26th, 1878.

X Q. 153. Does this entry occur in the regular order as to dates compared with the other entries on this page?

A. No.

Cross-examination closed.

Redirect examination:

R D. Q. 154. Do you remember when M. B. Medler left the employ of the Gold and Stock Telegraph Company?

A. No; it was before June, 1882, I think.

R D. Q. 155. What was your usual practice in the summer of 1878, in respect to the inspection of telephone lines set up under your instructions regarding the making of the entry from which the date for service should commence?

A. I adapted the practice largely to my business convenience. I visited many of the offices in which we had connected apparatus. I did not go regularly, but I went often enough to convince myself that the work was being properly done. This was my chief object in making the visits.

R D. Q. 156. At the time of making the affidavit concerning which you have been questioned on cross-examination were the facts therein recited fresh in your memory, and upon reading the affidavit are you able to reaffirm what you there said?

(Question objected to as improper, the affidavit in question not being in evidence.)

A. They were fresh in my memory, and I reaffirm them.

(Notice is given that the affidavit referred to by the witness, which has already been marked by the notary for identification, will be referred to at the hearing.)

At the time and for the purpose of making the affidavit I refreshed my memory by reference to the records.

R D. Q. 157. At the risk of repetition I wish you would explain more fully the purpose of each of the books concerning which you have testified and which are here before you.

(Counsel for Drawbaugh objects to a repetition of the testimony-in-chief under the guise of redirect examination. He is of the opinion that an unnecessary amount of time has already been consumed in this examination, and he enters a protest in behalf of his clients against this procedure.)

Counsel for the Office states that as appears from the record a slight delay has been unavoidably occasioned during the examination of this particular witness, and simply for the purpose of fully identifying two books concerning which the witness has testified and over which counsel for the Office has no control, and which counsel for Drawbaugh has stated that he will insist shall be produced at the hearing, the witness is requested to explain fully what the books are and what was the

purpose of keeping them; and as to any unnecessary consumption of time, it is thought the record will show for itself that no delay has been occasioned which could have been reasonably avoided.)

A. The two books are the old private-line-department statistic-book No. 2 of the Gold and Stock Telegraph Company and the old private-line-department telephone ledger of the Gold and Stock Telegraph Company. The object of the first book is especially to record information covering the other parts of the equipment rather than the telephones themselves—that is to say, details of the wire, battery, labor, and materials used, and the dates at which work was done in installing the lines, and to give a record of the cost of such labor and material. The other book had for its object the recording of information relating to the telephones themselves and not to the rest of the equipment, nor to labor nor costs.

Examination closed.

GEORGE L. WILEY.

(Counsel for Drawbaugh gives notice that he will insist upon his objection to the testimony of this witness concerning the books or entries referred to unless said books are produced as exhibits in the case.

The notary is requested to mark with her initials the two books referred to by this witness, so that if required by the Commissioner of Patents the same may be produced at the hearing of this case, if the owners thereof will consent thereto.)

3 p. m., adjourned *sine die*.

STATE OF NEW YORK,

County of New York, ss :

I, Caroline E. Davidson, a notary public within and for the county of New York and State of New York, do hereby certify that the foregoing, being part of the deposition of George L. Wiley, commencing with cross-question 137 and ending with redirect question 157, was taken on behalf of the United States Patent Office, in pursuance to agreement between counsel, before me at No. 11 Wall street, in the city of New York, on August 11th, 1890; that the said witness was by me duly sworn before the commencement of his testimony; that the testimony was written out by myself; that the opposing party, Daniel Drawbaugh, was present by counsel during the taking of said testimony; that the said testimony was commenced at 12.30 o'clock on August 11th, 1890, and completed at 3 o'clock of the same day; that I am not connected by blood or marriage with either of said parties, nor interested directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed my seal of office, at the city of New York, in said county, this 15th day of April, A. D. 1890.

[SEAL.]

C. E. DAVIDSON,
Notary Public, N. Y. Co.

NEW YORK, *March 15th*, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

For convenience of reference to books and papers, adjourned to 195 Broadway, room 28.

EXAMINATION OF SAMUEL M. TAYLOR.

SAMUEL M. TAYLOR, a witness called on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit:

Q. 1. What is your name, age, residence, and occupation?

A. My name is Samuel M. Taylor; 40 years old; reside at East Orange, N. J., and am at present the auditor of the Gold and Stock Telegraph Company of New York and of the American Speaking Telephone Company of New York.

Q. 2. How long have you been auditor of the Gold and Stock Company?

A. Since the 1st of July, 1880.

Q. 3. What was your occupation in the summer of 1878?

A. I was the general accountant of the Gold and Stock Telegraph Company, which at that time was the sole agent of the American Speaking Telephone Co.

Q. 4. Do you consider yourself an expert in book-keeping?

A. I do.

Q. 5. What experience have you had?

A. I have had practical experience since 1867.

Q. 6. Have you in your charge any books and accounts of the Gold and Stock Company and the American Speaking Telephone Company which show the receipt by those companies of any moneys on account of the sale, use, or rental of telephones during the summer of 1878?

A. I have all of the vouchers and general-account books of both companies from their organization to date, so far as I am aware.

Q. 7. Can you show by reference to such books the receipt of any moneys by the Gold and Stock Company for service rendered or instruments furnished to the parties named on the slips which I now hand you, marked "Wiley's Exhibit, American District Company's orders?"

A. The collector's ledger, which gives the details of charges represented on my general journal No. 3, page 318, for \$270, shows that the American District Telegraph Company was charged \$55 for telephones furnished on the 27th day of June, 1878; \$15 for telephones furnished the same company on July 25, 1878; \$170 for telephones furnished the same company on August 22d, 1878; \$5 on August 26th, 1878, and \$40 for those furnished September 6th, same year; \$270 of the foregoing amount was collected on the 19th of October, 1878, for the bills of June 27th, August 22d and 26th, and September 6th; \$15 was

collected on July 31st, same year, making an aggregate of \$285. The July 25th bill was for 3 hand telephones; the June 27th bill was for 3 hand telephones and 2 Edison transmitters; August 22d for 2 hand and 8 Edison transmitters; August 26th for 1 hand telephone, and September 6th for 8 hand. These 4 bills, covering fourteen hand telephones and ten Edison transmitters, were averaged as to date to September 1st, 1878, by an agreement made by Vice-president Walker, as per indorsement in Vice-president Walker's handwriting on the bill of September 30th, 1878, included in this exhibit. The record of cash charges and payments is taken from page 124 of the collector's ledger, and that as to the style of instruments furnished from page 130 of the same book. The item of \$15 of July 25, as per slip No. 2 of this exhibit, having progressive number 63, is included in the item of \$75 which appears upon my journal No. 3, page 297, as a credit to the telephone department, and in the gross charge to the collector's account of \$28,508.40. My records give the gross amount for which the collector was required to account, this gross amount being subdivided to the various departments to which the earnings were to be credited. The item of \$270 covered by slips 1, 3, 4, and 5, bearing progressive numbers respectively 92, 93, 94, and 95, appears in my journal No. 3, page 318, as a credit to the telephone department for September, 1878, and is included in the gross charge against the collector for that month of \$29,249.59.

(For the purpose of more clearly identifying the several slips included in the exhibit shown the witness they are now marked in the order in which they appear attached together, No. 1, No. 2, No. 3, No. 4, No. 5, and No. 6, and are now fastened with an eyelet in that order.)

Q. 8. Please look at the several slips now shown you, marked Butler's Exhibits No. 6, No. 7, No. 8, No. 9, No. 10, and No. 11, referring respectively to Funch, Edye & Co., James S. Rockwell, James H. Banker, C. A. Arthur, Charles L. Wright & Co., and the health department, and state if you find in the books of the Gold and Stock Company the record of any receipt by the said company of moneys for service rendered the parties named on said slips during the months of June, July, and August, 1878.

A. I find no separate charge for the telephone-exchange service to Funch, Edye & Co., as per Butler's Exhibit No. 6, for said months. I find that J. S. Rockwell & Co. had a private line, for which they had been paying us \$40 per month; that in August, 1878, the charge against them was \$33.33, being at the rate of \$40 per month up to the 9th day of August, and at the rate of \$30 from that date to the end of the month, \$30 being the rate at which the line equipped with telephones was to be charged, as per Butler's Exhibit No. 7, and that this amount, \$33.33, was collected on September 13th. This record appears on page 102 of the collector's ledger, already referred to.

Butler's Exhibit No. 8, being the slip for James H. Banker's line, is

for a dead-head service, and consequently does not appear in the collector's ledger, as no charge was to be made for the service.

On page 82 of the same book I find a charge against C. A. Arthur, collector, at the rate of \$85 per month, of \$56.67, being the proportionate charge from August 10th, 1878, to the end of said month. This amount was paid on September 9th of same year. This entry corresponds to Exhibit No. 9 of the series handed me.

On page 105 of the same ledger appears the charge against C. L. Wright & Co., at the rate of \$55, of \$16.90 for July, 1878, the same being the proportional amount of the charge for the service from July 23 to the end of said month at the foregoing rate. This amount, \$16.90, was paid on August 12th. This entry corresponds to Butler's Exhibit No. 10.

On page 87 of the same ledger I find an entry to the health department, corresponding with that on Butler's Exhibit No. 11, the same being \$9 for the month of August, 1878, representing the amount due from August 14th to 31st at the rate of \$16.66. The amount of \$9 was collected on September 13th.

C. L. Wright & Co. paid the full rate of \$55 for the month of August on September 20th; on October 14th the same amount for the month of September; on November 16th they paid \$61 for October: \$55 for November on December 21st, and \$55 for December on December 30th.

The health department paid the full rate of \$16.66 per month for several succeeding months, payment for September being made on October 26th.

The charge against C. A. Arthur, collector, was transferred to E. A. Merritt, collector, on September 1st, who paid \$85 for the September service on October 11th, and continued to pay the full rate thereafter for a number of months.

J. S. Rockwell & Co. paid \$30 for the September service on October 12th, and continued payments at this rate thereafter for several months.

Q. 9. Do the books show, or can you state from your records or recollection, what the service was for in the several cases referred to?

A. In accordance with the regular routine of business the orders for new service, a number of which appear in Butler's exhibits, already referred to, were entered in the collector's ledger, already referred to, giving the details of the financial part of the transaction only, the mechanical records being made in the superintendent's department; consequently my books do not give the full details as they appear upon the orders. But as these entries were made from the slips or "orders" there can be no doubt as to the charges having been made for the specific service as appears on the orders already referred to.

Q. 10. Can you show by reference to your records the receipt of any moneys by the Gold and Stock Company in payment for telephones sold during the summer of 1878, or any payments made by said company for telephones made for or purchased by it during that summer? If so, please state what you find on this subject.

A. My cash vouchers show the receipt of \$82 on August 2d, through George B. Scott, superintendent, from Professor Chandler, president board of health, New York City. This amount was deposited to the credit of the company on August 3d. This amount was for 2 Phelps hand phones, 2 Gray bipolar phones, and 2 Edison carbon transmitters with induction-coils.

Adjourned to 2 o'clock.

By consent the examination of Mr. Taylor is suspended for the purpose of examining another witness.

195 BROADWAY, NEW YORK,

March 17th, 1890, 10 a. m.

Met pursuant to adjournment Present, counsel as before.

EXAMINATION OF MR. TAYLOR—Continued.

I also find the receipt of \$1,644 on October 29th, 1878, from the Chief Signal Officer, Captain Howgate. This amount was for 2 crown telephones and 2 Edison telephone transmitters shipped to Washington on July 22d of said year, but for which the bill was not rendered until October 15th, 1878. The amount of this bill was \$124, and also for 80 single crown telephones and 40 double-switch call-boxes shipped to Washington on or about September 21st, bill for which amounted to \$1,520 and was rendered on October 15th. The remittance already named, \$1,644, covering these two preceding bills, was deposited on October 29th, 1878. These are the first early sales of the Edison transmitter of which I find record.

The Western Electric Manufacturing Company of Chicago rendered us a bill on August 31st, 1878, for 8 Edison transmitters with induction-coils in boxes, 250 Edison transmitters with coils and sounders complete, 100 Edison transmitters without sounders, boxing, packing, and cartage, amounting to \$3,791.40. This bill was credited on my journal No. 3, page 324, and posted to the credit of the Western Electric Company in ledger D, folio 18, as of September 30th, being included with other August and September bills in the amount of \$4,697.59. Payment of this amount was made in due course of time.

On September 7th, same year, Thomas A. Edison rendered a bill, or rather his bill was dated September 7th, for 2 induction-coils, with switch and key, 6 induction-coils with box, 8 carbon transmitters, 2 20-ohm sounders; amount, \$99; and under the same date, but separate heading on the same sheet of paper, a bill for 2 Partrick & Carter telephones at \$25, \$50; total amount, \$149. Check for this amount was drawn to the order of Thomas A. Edison on September 26th of the same year, as shown by my check-book, on the Bank of New York, covering checks No. 5001 to 6000, inclusive, and the receipt for this amount, dated October 17th, 1878, is attached to this bill.

(The Edison bill and receipt referred to by the witness in his last answer is the original of Scott's Exhibit No. 2, heretofore offered in evidence.)

Q. 11. Please look at the paper now shown you, which has been put in evidence as "Chandler's exhibit, Scott-Chandler, 1878, correspondence No. 6," and state if you recognize it and your recollection concerning the same.

A. I recognize my signature on this exhibit, which is proof that I received the check for the amount of \$82 on August 2d, 1878, as already stated in my previous answer, in which I made reference to cash voucher for this amount, and which I now produce.

(A copy of the voucher referred to by the witness is offered in evidence as "Taylor's exhibit voucher for \$82.")

Q. 12. Were the telephones referred to in the Western Electric Mfg. Co. bill of August 31st, concerning which you have testified, indicated by number on said bill? If so, please read the numbers.

A. Six of the 8 Edison transmitters, with induction-coils and boxes, were numbered on the bill 5002, 5004, 5006, 5008, 5010, and 5012. As appears from the bill, 2 of them were sent to Mr. Edison without numbers. The 350 remaining Edison transmitters on this bill were numbered from 5014 to 5712 inclusive.

(The answer referring to the bill is objected to as secondary evidence, the bill itself being the best evidence.

A copy of the bill referred to is offered in evidence as "Taylor's Exhibit Western Electric bill.")

Q. 13. Please look at the letter now shown you, marked "Chandler's Exhibit No. 10," and state if you recognize the handwriting.

A. I recognize the body and the signature of this letter as being in the handwriting of James C. Wood, who at that time was a canvasser for the Gold and Stock Telegraph Company.

Q. 14. Where is the said Wood now, if you know?

A. I have been informed that he is dead.

Q. 15. Have you made, or caused to be made, any search for books showing the receipts and disbursements of telephones by the Western Union supply department, and, if so, with what results?

A. I have made every effort to obtain these books, or any information in regard to them, and have been successful only in establishing the fact that they were destroyed several years since to make room for more recent records.

Q. 16. Please state if you recognize the books now shown you and what they are.

A. I recognize these two letter-books as being two of a series of letter-books into which were copied the letters of the vice-president of the Gold and Stock Telegraph Company. They are numbered 6 and 7, No. 6 covering letters dated from February 15th, 1878, to May 25th of the same year, and No. 7 those from May 25 to July 30th, same year.

Q. 17. Can you show by reference to any of the books and accounts of the Gold and Stock Telegraph Company and American Speaking Telephone Company, now in your charge as auditor for those companies, the payment by said companies, or either of them, of any moneys to canvassers as commissions for soliciting orders or contracts for telephones during the months of June and July, 1878? If so, state to whom said moneys were paid, and when.

A. A bill dated July 15th, 1878, was paid to canvasser James C. Wood, already referred to, for commissions on renewals of contracts with F. O. Matthiessen and Wiechers, and Funch, Edye & Co., and for a new contract with Charles L. Wright & Co. The amount of this bill is \$159, and was paid on July 17th, 1878, as per my cash-book No. 3, page 447. And a bill dated July 31st, from the same canvasser, for commissions on renewals of the contracts with Cunard Steamship Co., N. Y. Tribune, and N. Y. health department, building private wire, bill amounting to \$117, and was paid on July 31st, 1878, as per cash-book No. 3, page 447. I also find that the same canvasser rendered a bill on June 29th, 1878, for commissions on telephone contracts with Pierce & Hall, Pell & Wallack, W. H. Smith & Son, and J. S. Rockwell & Co., the amount of the bill being \$67.50, and was paid to said Wood on July 1st, 1878, as per cash-book 3, page 454.

Q. 18. What was the amount indicated in the bill upon which the commission was paid to Wood for the J. S. Rockwell & Company's contract?

A. Wood was paid a commission upon the yearly rate of this contract, which was \$360; amount of the commission was 5 per cent., or \$18.

Q. 19. Were you acquainted with the exhibition-room of the Gold and Stock Company during the summer of 1878?

A. I was. I was in the room a number of times and was aware of the fact that the early Edison telephones were being used over this line; and I am quite sure that I talked through them, or one of them, and listened to the conversation at the Twenty-third-street end of the line.

Q. 20. At how early a date was this?

A. I cannot fix the date positively, but am sure that it was within a short time of the completion of the line and its equipment with the telephone.

(The several books and original papers referred to by this witness during his examination are here present and are tendered to counsel for Drawbaugh for his inspection and for the purpose of proper cross-examination.)

Direct examination closed.

Adjourned to 1.45 p. m.

NEW YORK, 195 BROADWAY,
March 20th, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

CROSS-EXAMINATION OF MR. TAYLOR.

X Q. 21. What, if any, connection did you have with the American Speaking Telephone Company during the year 1878?

A. None, except as the general accountant of the company, which was the sole agent of the American Speaking Telephone Company.

X Q. 22. When was the Gold and Stock Company appointed sole agent?

A. On or about the date of the organization of the American Speaking Telephone Company, to the best of my recollection.

X Q. 23. Were you in the employ of the Gold and Stock Company prior to the organization of the American Speaking Telephone Company?

A. I was for more than three years, having entered its service on the 1st of May, 1874.

X Q. 24. Prior to the organization of the American Speaking Telephone Company was the Gold and Stock Company engaged in the telephone business?

A. I think not.

X Q. 25. What were your duties during the year 1878 as general accountant of the Gold and Stock Telegraph Company?

A. They may be generally stated as follows: To see that all of the money due the company from every source was collected, and that no money was paid out except upon properly approved vouchers, and that records of these transactions were properly made in the general-account books of the company, and also making up the usual statements of the earnings and expenses of the company and of the condition of its treasury.

X Q. 26. Were the accounts of the several departments of the company kept separately or a general account?

A. Each department had its own separate set of accounts, but the results of the transactions of business in each department were summarized in these general accounts.

X Q. 27. What records were kept by you or under your supervision pertaining to that department having in charge the telephone business?

A. The records contained in the reports from agencies outside of the New York district; the circuit-books, which contained a detail of all the customers in the New York circuits; such cash vouchers as related to cash received through the treasurer's department direct; and all vouchers covering the bills for the purchase of telephones and their disbursement from the Western Union supply department, and such books as were necessary to the general summarizing of these records.

X Q. 28. From what were the circuit-books made up?

A. From the records of the superintendent, George B. Scott.

X Q. 29. Was the collector's ledger, referred to in your answer 7, kept by you or under your direct supervision?

A. Only to the extent that it was my duty to see that the amounts entered upon his ledger were correct as to their gross sum.

X Q. 30. Did you make daily inspection? if not, at what intervals?

A. The amounts were made up monthly, and were verified at that time.

X Q. 31. When was the account under the heading "Telephones annual, etc.," on page 124 of the collector's ledger, now before you, begun?

A. In March, 1878. But it should be explained that the first seven entries on page 124, to which you refer, appear on this page as of March and April, 1879; but as these seven entries are copied from collector's ledger No. 6, page 127, which ledger covers a period from June, 1877, to May, 1878, and on this ledger No. 6 are originally entered as of March, 1878, the entry copied on page 124 of collector's ledger No. 7, to which you originally referred, is a clerical error, and this explanation is made to cover the seeming inaccuracy as to date on page 124 of collector's ledger No. 7, a copy of which now before me is in evidence as Massa's exhibit, collector's ledger.

X Q. 32. You state that the first seven entries on page 124 are copied from page 127, collector's ledger No. 6. Are they literal copies?

A. They are not, and on closer examination I find that that portion of my previous answer in which I stated that the entry on collector's ledger No. 7, page 124, first seven items, was a clerical error, is apparently incorrect, and that I should have said these first seven entries on page 124 are apparently made for the purpose of recording the renewal of these contracts, which were annual and collectible in advance.

X Q. 33. As an expert in book-keeping will you please state, upon reference to page 124 of the collector's ledger No. 7, when the several entries referring to the American District Telegraph Company appear to have been made, referring more particularly to the column marked "service" and the dates entered therein, and give your reasons?

A. The first entry to the A. D. Tel. Co., on the 20th line of said page, is under the date of July 25, 1878, and appears in the natural order of preceding months. It would appear to have been regularly made and is for \$15. The next entry, on line 24, is dated June 27. The amount is entered in red ink. The amount is also ruled out in red ink, and reference is made by an asterisk to a subsequent charge in the month of September, same year. This would indicate to my mind that this charge had been held in abeyance, that it had not been entered in the regular course of business, but that this item and those of the three succeeding items, under the dates of August 22, amount \$170, August 26, amount \$5, and September 6, \$40, had not been made until an adjustment had been arrived at in regard to these four entries. The three

following entries to the company in question, two of them for October, 1878, and one for November, same year, appear to have been made in the regular course of business for those months.

X Q. 34. I call your attention to the fact that the entry on line 23 is dated August 30, and that on line 29 is dated October 3, 1878, and the succeeding entries in their order; further, that with the exception of the account on lines 24 to 27, inclusive, the amounts entered on this page are in purple ink, whereas those on the lines mentioned are in red ink, and that the total of \$270, charged in purple ink in the September column, is on the line with the entry "Chgd. in Sept. $\frac{a}{c}$. Do not these circumstances indicate that the purple-ink entries and possibly the red-ink entries on lines 24 to 27, inclusive, were entered at some date between the 30th of August and the 3d of October, and probably on the 6th of September, 1878?

A. It would appear that these red and purple ink entries on lines 24 to 27, inclusive, had not been made until such time as an adjustment had been agreed upon as to the date of the charges—probably on some date between August 30, 1878, and October 3, 1878; but they may or may not have been made upon September 6th, 1878.

X Q. 35. Will you please read the entry referred to in your answer 7 as appearing on your general journal No. 3, page 318, and purporting to have had reference to the items mentioned in said answer and appearing in the collector's ledger?

A. "Telephone department, bills, \$270."

X Q. 36. Is there anything in that entry, other than the amount, connecting it with the slips 1, 3, 4, and 5, bearing progressive numbers respectively 92, 93, 94, and 95, and referred to in your answer 7?

A. None in the entry itself, except the date, which is for the same month in which the entry is made upon the collector's ledger.

X Q. 37. In said answer No. 7 you have made mention of a number of telephones purporting to have been furnished the American District Telegraph Company on various dates named. Have you any personal knowledge that said telephones were actually furnished the company named and on the several dates stated?

A. None, except as furnished by the records.

X Q. 38. How do you connect the entry on page 102 of the collector's ledger with the record on Butler's Exhibit No. 7?

A. By the following facts as they appear upon this page in connection with the slip or order already referred to, Butler's Exhibit No. 7, and the contract with J. S. Rockwell & Co., dated June 26th, 1878, marked Butler's Exhibit No. 2, and the letter from J. S. Rockwell & Co., attached to this last exhibit, which show that they had a contract which was about to expire; that the new service was completed and was to be charged for from August 9, 1878; and that the amount entered in the August column as against J. S. Rockwell & Company represents the proportion of \$40 per month (the rate of the old contract) up to August

9th, and the proportion at \$30 per month from August 9th to the end of the month at the rate of the new contract, \$30 per month.

X Q. 39. How do you connect the entry on page 105 of the ledger with Butler's Exhibit No. 10?

A. This exhibit calls for a telephone equipment of a private line for the said Wright in accordance with contract No. 56, the rate of which contract was \$55 per month, and the line was completed so that the charge was to commence from July 23d, 1878, as appears upon the slip, and the charge upon the collector's ledger in the July column of this year against this party is \$16.90, which is the proportion of \$55 for the balance of the month from the 23d inst.

X Q. 40. Does the amount charged, \$16.90, represent the proportionate charge for a period including the 23d of July, 1878?

A. It does, I believe.

X Q. 41. Who was the J. B. Van Every to whom the original of Taylor's exhibit voucher for \$82 is addressed?

A. He was the nominal auditor of the Gold and Stock Telegraph Company, but being the auditor of the Western Union Telegraph Company his duties were principally those of signing warrants, and almost all the work naturally belonging to the auditor's office was performed in my office.

The examination of this witness is suspended for the present.

NO. 195 BROADWAY, NEW YORK,

March 21st, 1890, 10 a. m.

Met pursuant to adjournment. Present, counsel as before.

EXAMINATION OF MR. TAYLOR—Resumed.

X Q. 42. Referring to page 87 of the collector's ledger, what is the significance of the mark ³X entered in the address column on line with the entry "Department of health?"

A. A similar character appears on this page on the line of the "Department of public parks" and "Department of docks." I take it that the figure "3" refers to three contracts, naturally requiring three bills for three public departments with which we had contracts.

X Q. 43. Referring to page 105 of the collector's ledger, and to the C. L. Wright & Company's entry thereon, I call your attention to a purple-ink entry and erasure in the column "Service," above "\$55." Can you explain what that entry is or indicates?

A. It would appear to be a memorandum made by the collector in regard to this service, but the amount of ink used in crossing it out prevents my perceiving what this memorandum was.

X Q. 44. Referring to your cash vouchers and other records, please state in what form the payment was made to you for the instruments

furnished Professor Chandler, and mentioned in your answer to question 10.

A. By reference to my cash voucher, dated August 2d, 1878, a copy of which is in evidence as "Taylor's exhibit voucher for \$82," I find that payment was made by check.

X Q. 45. Will you please read into the record the document referred to in your answer to question 10 as "the receipt of \$1,644 on October 29th, 1878, from the Chief Signal Officer, Captain Howgate," and state wherein said document exhibits the matters referred to in your answer?

A. The document is as follows:

[War Department, Office of the Chief Signal Officer, Division of Telegrams and Reports for the Benefit of Commerce and Agriculture.]

WASHINGTON, D. C., Oct. 26th, 1878.

Mr. R. H. ROCHESTER,

Treasurer Gold and Stock Tel. Co., New York City:

SIR: Inclosed herewith please find check No. 28,673, drawn by me this day on the ass't treasurer of the United States at N. Y. City to your order, amounting to \$1,644.00, for telephones furnished, and for which signed vouchers have just been received.

Very respectfully,

H. W. HOWGATE,

1st Lieut., P. and D. Officer, Sig. Serv., U. S. A.

(Indorsement:) "1644—Oct. 29." "R." "W."

It will be seen that reference is made in this document to telephones which had been furnished to Captain Howgate, and our requisition-books and record of miscellaneous bills give the items and the amounts, which aggregate \$1,644, and that bills for the same had been made on October 15th, 1878. As none of the records show the delivery of any other telephones to Captain Howgate within a reasonable length of time prior to the date of his remittance, as shown in the document already copied, and as the amounts correspond, I think there can be no question as to their identity.

X Q. 46. Please explain what records you have reference to as indicating these facts.

A. Requisition-book No. 3, stub No. 417, a copy of which is in evidence as Scott's Exhibit No. 1, covers the 2 crown telephones and 2 Edison transmitters which appear to have been shipped on July 22d, 1878, and the amount of the bill for which was \$124. The same requisition-book, stub 536, covers the item of \$1,520 for 80 single crown telephones and 40 D. S. call-boxes, the bill for which was dated October 15th. The record of bills entitled "Record of bills passed over to sec'y for collection, and to book-keeper to be charged in accounts," contains a summary of the two bills referred to and this record-book was used for the entry of such items as are indicated by its title.

X Q. 47. Do you know of your own knowledge that the Edison instruments referred to in the preceding answer to question 10 were actually shipped to Washington on July 22d, 1878?

A. As the delivery department was not in my charge, I do not.

X Q. 48. Will you please read the entry in journal No. 3, page 324, referred to in your answer 10?

A. It appears among other items as a credit to the Western Electric Manufacturing Company and a debit to telephone company. The entire entry is as follows:

SEPTEMBER, 1878.

W. E Mfg. Co., cr.....	4,697.59
By bills, viz:	
St. Louis P. L. E. & E., Aug. 8.....	50.56
Indianapolis " " " 9.....	23.25
Chicago " " " 13.....	6.25
C. N. Dept., Aug. 13, Chicago.....	86.30
" 15, Milwaukee.....	22.25
	108.55
Milwaukee P. L. E. & E., Aug. 23.....	6.25
Telephone Co., Aug. 19.....	4.73
" 31.....	3,791.40
Sept. 12.....	22.75
" 30.....	72.75
" ".....	600.00
	4,491.63
P. Line Dept., N. Y.....	11.10

The second item of the debit to the telephone company under date August 31st corresponds with the bill in question, a copy of which is in evidence as "Taylor's Exhibit, Western Electric bill," and is the particular bill in question.

X Q. 49. Was the James C. Wood referred to in answer to question 17 employed for canvassing orders and contracts covering as well the building and equipping of lines and the renewals of outstanding contracts by the Gold and Stock Company?

A. He was; that is, he was paid a commission upon such renewals and new contracts as he could obtain.

X Q. 50. Were you familiar with the system in use by the private-line department of the Gold and Stock Company in making up their records from what are referred to in the testimony as the "order slips," such, for example, as "Wiley's Exhibit, American District Company's orders," referring particularly to the practice during the year 1878?

A. Generally, but not specifically; that is, I know that a record was kept of all of the transactions of that department, but in just what particular form I do not recall that I was then what may be called familiar.

X Q. 51. Are the Gold and Stock Telegraph Company and the American Speaking Telephone Company, of which you are auditor, in any way connected with the American Bell Telephone Company?

A. The Gold and Stock Telegraph Company is the licensee of the American Bell Telephone Company for the use of telephones on its private-line system, and the American Speaking Telephone Company re-

ceives a royalty from the American Bell Telephone Company on its telephone business.

X Q. 52. Have you now in your possession the "circuit-books" referred to in your answer 27? If not, what disposition was made of them, if you know?

A. Some of those which related to the private-line department I gave to the Metropolitan T. & T. Co. to complete its files, and the balance were destroyed.

Cross-examination closed.

Redirect examination:

R D. Q. 53. Do you know E. W. Andrews? and if so, state who he is and where he is, if you know.

A. My recollection is that I was personally acquainted with a Mr. E. W. Andrews, who was at one time president of the American District Telegraph Company of New York. I have not seen him for a number of years, and I have been informed that he is or was in an insane asylum, and my recollection is that I was also informed that he died in such an institution.

Examination closed.

SAML. M. TAYLOR.

MARCH 15, 1890, 2 P. M.

Met pursuant to adjournment.

EXAMINATION OF JOSHUA C. MASSA.

JOSHUA C. MASSA, a witness called on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows, to wit:

Q. 1. Please state your name, age, residence, and occupation.

A. Joshua C. Massa; age, 43; residence, West Orange, New Jersey, and occupation, book-keeper.

Q. 2. What was your occupation in the summer of 1878?

A. I was collector for the Gold and Stock Telegraph Company.

Q. 3. Please state more fully what your duties were as collector for said company at that time.

A. To keep account with all the customers, charge them for services, and collect for the same.

Q. 4. Please look at the papers now shown you and state whether or not you recognize them, and, if so, what they are and generally what you know concerning them.

A. I recognize these as orders for telephones, which, after being approved by the secretary, were sent to the superintendent to have the orders carried out; after the orders had been finished they were passed

to me for my entry and collection. They are all signed by me with my initials as having been entered. I refer to the green slips numbered from 1 to 5. No. 6 is a bill made out by me for the slips numbered 1, 3, 4, and 5. That bill was collected by me October 19th. I recognize on the green slips the initials "J. D. R." and the signature of James D. Reid, secretary, and the signature of G. L. Wiley, assistant superintendent, and also the indorsement on this bill, signed by George Walker, vice-president, ordering me to charge from the date September 1st, 1878. Attached to this bill is a memorandum in my handwriting, which reads as follows:

This is the change in bill agreed with Mr. Andrews and Mr. Walker that these should all date from September 1st, instead of several different dates. No note of any other charge. Signed by me, J. C. Massa.

This memorandum refers to the charges of these instruments enumerated on the bill June 27th, August 22d, August 26th, and September 6th, as those were the dates I had originally charged them. A paper in my handwriting attached to slip No. 5 reads as follows: "See papers attached to back of these orders." This is dated October 18th, 1878, and signed with my initials, and refers to the bill and memorandum attached to the orders.

Q. 5. Can you by reference to any of the books of the Gold and Stock Company kept by you in the year 1878 fix the date and fact of collections made by you for the rental of the instruments referred to in said orders?

A. By reference to collector's ledger No. 7, covering the period from June, 1878, to May, 1879, one of the records of the Gold and Stock Telegraph Company kept by me at that time, and on folio 124, I find that the instruments referred to in green paper No. 2 were paid for July 31st; those referred to in Nos. 1, 3, 4, and 5, as per bill already referred to (No. 6), paid October 19th, 1878.

(The papers shown the witness, "orders for telephones" and concerning which he has already testified, are in evidence as "Wiley's Exhibit, American District Company's orders.")

The notary is requested to make a fac-simile copy of page 124 of the book referred to by the witness and verify the same upon the record as "Massa's Exhibit, Collector's Ledger.")

Q. 6. Please explain more fully the entries found on page 124 of the collector's ledger, to which you have referred.

A. The entry corresponding with paper No. 2 indicates that the American District Telegraph Company, Broadway, were charged for service from July 25th, 3 hand phones, \$15, paid July 31st. This is the first entry charged to the American District Telegraph Company on this page. The entry corresponding with slip No. 1, the fourth entry from the above, indicates that on June 27th additional telephones were charged \$55. The next entry to this is August 22d, charge of \$170. The next entry to this, on August 26th, charge of \$5. The next entry

to this, September 6th, charge of \$40. The next entry to this shows that these last four charges were averaged to be charged in September account, date as September 1st, for 10 Edison and 14 Phelps phones. These are the same entries as specified in papers 1, 3, 4, and 5, and included in bill No. 6, \$270, which was paid October 19th, 1878.

Q. 7. What is the signification of the cross-mark over the entries June 27th, August 22d, August 26th, and September 6th, and the erased red-ink entries \$55, \$170, \$5, \$40, and the several asterisks in red ink?

A. That the date from which the American District Telegraph Company should commence to pay the rental on these telephones which were put in on these several dates should be from the 1st of September and included in the September account, instead of the months under which they were first entered. The asterisks connect the four canceled entries with the final entry of September 1st.

Q. 8. Why was this change made in these entries to which you have referred?

A. As a result of a compromise between Mr. Walker and Mr. Andrews by order to me of Mr. Walker, as indorsed on bill above referred to.

Q. 9. Please look at the papers now shown you, which have heretofore been introduced in evidence as Butler's Exhibits Nos. 6, 7, 8, 9, 10, and 11, and state whether or not you recognize them; if so, what they are and what you know concerning the same.

A. I recognize them as orders for telephones. They are all orders for telephones that passed through the usual routine. I recognize the signatures or initials of J. D. Reid, secretary, G. L. Wiley, assistant superintendent, on all except No. 6. No. 6 has the initials of H. R. Butler, assistant secretary, and a stamp signifying the initials of G. L. Wiley, assistant superintendent, and myself as collector. My initials on all of these papers signify that they had all been duly entered on my ledger.

Q. 10. Can you show by reference to any of the books of the Gold and Stock Company kept by you in the summer of 1878 the receipts of any moneys for service rendered to the parties named on the several slips or "orders" shown you?

A. On Exhibit No. 9, Chester A. Arthur, collector; rental commenced to be charged for telephones in August; amount that month \$56.67. I fix this date and fact by an entry on page 82 of the collector's ledger already referred to. Date of payment, Sept. 9.

On folio 105 of the same book I have the payment of \$16.90 made by Charles L. Wright, as referred to on Exhibit No. 10. Date of payment, August 12th.

No. 11, department of health; charged in August \$9; paid September 13th. This is on folio 87.

Exhibit No. 7, James S. Rockwell, on folio 102; charge in August \$33.33; paid September 13th.

Exhibit No. 6, Funch, Edye & Co., on folio 88; I had a bill in August, \$100; paid September 11th.

Q. 11. Can you state by reference to the orders or book to which you have referred what the service was for which these payments were made and the period of service covered by such payment?

A. I cannot tell, with the exception of No. 11. The charge of \$9 was for telephone service from August 14th.

The examination of this witness is suspended until 3 o'clock p. m., Wednesday, March 19th, 1890.

Adjourned until 10 a. m., Monday, March 17, 1890.

MARCH 20TH, 1890, 3 P. M.

EXAMINATION OF MR. MASSA—Resumed.

Q. 12. Please state if you find any entries in your ledger No. 7 against the names of the several parties mentioned on the orders, Butler's Exhibits Nos. 6 to 11, of charges for service during the summer of 1878 and several subsequent months thereafter. If so, please state what you find.

A. On Butler's Exhibit No. 6, Funch, Edye & Co., I find charges on page 88 at \$100 per month for the whole time covered by this book. In regard to Exhibit No. 7, James S. Rockwell, I find on page 102 charges June and July for \$40, August \$33.33, and September to balance of time covered by books, \$30 per month. No. 8, service was dead-head; no entry of charge. No. 9, C. A. Arthur, page 82; charge in August \$56.67. It was afterwards charged to E. A. Merritt, collector, page 95; \$85 per month for September and the remainder of time covered by this book. No. 10, Charles L. Wright, folio 105; charge in July \$16.90; August and September \$55 each; October \$61; November and December \$55 each, and an additional charge to same party commencing November and continuing through the record of this book as \$10 per month. No. 11, health department; charge in August of \$9, and in September to end of this record \$16.66 per month, folio 87.

Q. 13. From what source did you derive the information from which these entries are made?

A. From these and other order-slips for private lines and telephones made by the secretary, passed by him to the superintendent, received by me with his date on which the completion of line was stated, and from which charge for service was commenced.

Q. 14. From what date was the charge for service to commence, if you know, in the several cases indicated on those slips?

A. Exhibit No. 6, Funch, Edye, charge from August 3d, 1878; No. 7, James S. Rockwell, August 9th, 1878; No. 8, James H. Banker, indicated as finished June 29th, 1878, dead-head, no charge to be made; No. 9, C. A. Arthur, charge from August 10th, 1878; No. 10, Charles L. Wright, charge from July 23d, 1878; No. 11, health department, charge from August 14th, 1878.

Q. 15. How did you determine the date from which the charge was to commence?

A. These blanks were forwarded to me from the superintendent or his assistants with a space entitled "Finished" filled in with date for me to charge from, as in No. 11, health department, "Finished, charge from August 14th, 1878, G. L. Wiley, superintendent." This was my authority from which to charge the customer.

Q. 16. Have you any entries showing the kind of instruments furnished the American District Telegraph Company, as indicated in Wiley's Exhibit, American District Company's orders? If so, state what you find.

A. On folio 130 of collection ledger No. 7, before referred to, I had a detailed memorandum account of telephones furnished to the American District Telephone Company. In respect to slip No. 1, I find this order, which was known as order No. 92; they had furnished them June 27th, 1878, 3 hand and 2 Edison telephones. As to slip No. 2, order No. 63, July 25th, 1878, I find 3 hand telephones. In regard to slip No. 3, order No. 93, I find an entry on August 22d, furnished with 2 hand and 8 Edison telephones. In regard to slip No. 4, order No. 94, I find that on August 26th they were furnished with 1 hand telephone. In regard to No. 5, order 95, I find September 6th the entry that they were supplied with 8 hand telephones. I also find that slips Nos. 1, 3, 4, and 5, known as "orders" Nos. 92, 93, 94, and 95, in all 14 hand and 10 Edison telephones, were to be dated as September 1st, 1878, by order of Geo. Walker, vice-president.

(Counsel for Drawbaugh objects to the testimony concerning these entries unless the book is introduced in evidence or a proper copy thereof.

Counsel for the Office states that this record is not under his control, but that he will, if possible, obtain a fac-simile of the page called for and introduce the same as an exhibit in the case.)

Q. 17. Please state your recollection as to when and by whom these entries were made.

A. My best recollection with regard to these entries is that they were made, at or about the times of the dates specified, by myself.

Q. 18. Please explain how it occurs that the entries are not in regular order as regards dates; that is to say, how does it occur that the entry of June 27th is below that of a later date?

A. These entries appear to have been made in regard to the numerical order of the orders, and the entry of June, having a clerical number of 92, covered service which was evidently rendered prior to that covered by order No. 63.

Q. 19. Please state, if you can, when the entries on page 124 of this book, to which you have already referred, were made, referring particularly to the entries relating to Wiley's Exhibit, American District orders.

A. These entries, to the best of my knowledge and belief, were made at or about the dates specified for the service to commence.

Q. 20. How does it occur that the entries of June 27, August 22, and August 26 are below other entries of a later date?

A. These orders did not always reach me in the exact order in which they were put in. I might at any time receive an order to make charge for date for service at a time antecedent to that of which some other order already entered was dated.

Q. 21. From what were the first seven entries on this page made, and when, if you know?

A. They were carried forward from my preceding ledger No. 6, folio 127, and were made at some date preceding the time for which that ledger was to run, namely, to the end of May, 1878. They were an annual rental and carried forward by me to be charged for the same as on the preceding year, unless I received instructions otherwise. They were supposed to be a continuance of the preceding service.

Q. 22. State, if you know, who was the E. W. Andrews and the W. H. Jordan whose names appear on page 124 of your ledger No. 7.

A. E. W. Andrews was president of the American District Telegraph Company. W. H. Jordan, I think, was one of their superintendents.

Q. 23. Where are they now, or either of them, if you know?

A. I don't know where either of them is.

Q. 24. In whose handwriting are the several entries, figuring, etc., on pages 124 and 130 of your ledger No. 7?

A. In my own.

Q. 25. When did you last see the books No. 6 and No. 7, prior to the time of referring to the same in my presence after you had been called upon to testify in this case?

A. Not since leaving the employ of the Gold and Stock Telegraph Company.

Direct examination closed.

Adjourned to March 21, 10 a. m.

MARCH 21, 1890, 1.30 P. M.

EXAMINATION OF MR. MASSA—Resumed.

Cross-examination:

X Q. 26. Did you have anything to do officially with what you denominate "orders for telephones" in answer 4 before the service was finished?

A. Not to my recollection.

X Q. 27. Whose duty was it to make the entries before the orders were delivered to you? I refer to the entries on the order-slips.

A. They were made in the superintendent's office. My authority for

making the charge was the indorsement and signature of the superintendent or assistant superintendent.

X Q. 28. And the entries which you made on your collector's ledger were copied from the indorsements appearing upon the slips when delivered to you. Is that correct? If not, state what the fact is.

A. They were made from these slips; I can't say an exact copy. They were made from these slips and the data thereon.

X Q. 29. Was the amount to be charged indorsed on the line "Charge" under the word "Entered" always marked upon the slip before you made an entry in your book?

A. That I could not say, whether it was made before or after.

X Q. 30. Did you not usually make that entry yourself?

A. I think I usually did.

X Q. 31. And did you so make the entry at or about the time you placed your initials on the slip to indicate that the entry had been made in the book?

A. Yes.

X Q. 32. In whose handwriting, if you know, are the figures under the word "Entered" and opposite the word "Charge" on slips Nos. 1 to 5, inclusive, of Wiley's Exhibit, American District Company's orders?

A. I should say that No. 1 figures were made by James D. Reid, secretary; No. 2 by myself; Nos. 3, 4, and 5 by James D. Reid, secretary.

X Q. 33. Please explain how those entries happened to be made by Mr. Reid and not by yourself, according to the usual custom.

A. I can't tell why they were put there by Reid.

X Q. 34. Do you know that said entries were on the slips at the time you made the entry in your collector's ledger?

A. To the best of my recollection, I presume that they were.

X Q. 35. Aside from any inference or supposition that you may have with reference to the subject, have you any personal knowledge that said entries were in fact made prior to the time stated?

A. I have no doubts whatever that they were from the fact that it would have been my regular custom to have made them there myself. From my own personal knowledge I cannot say at this date that they were.

X Q. 36. Did it not sometimes occur that the rate of charges had not been determined upon when the slips were handed you, and that the amounts were subsequently entered up both on the slips and in the collector's book?

A. Not to my recollection.

X Q. 37. Will you please explain why the amounts charged against the American District Telegraph Company on page 124 of the collector's ledger, lines 24 to 27, inclusive, were entered in red ink and not in purple ink, as are other charges from the same page?

A. I cannot.

X Q. 38. Can you tell when the indorsement signed "G. Walker, V. P.," on slip No. 6 was entered thereon?

A. I cannot.

X Q. 39. Do you remember to have presented the bill slip No. 6 for collection?

A. Not that individual bill, but probably one of which that is a copy.

X Q. 40. Were the entries on line 28 of page 124 of the book referred to made at the same time?

A. I think not. I think that they were made about the end of September; the date of payment in that entry was made on the date stated, October 19th.

X Q. 41. Were the red and purple ink entries made at the same time?

A. I presume they were, excepting the date of payment of the bills.

X Q. 42. What leads you to presume that they were?

A. My natural manner of conducting the business.

X Q. 43. Are you positive that the entries on lines 24 to 27, inclusive, were made from the slips Nos. 1, 3, 4 and 5 of Wiley's Exhibit, American District Co.'s orders, and that the entry of the amount to be charged was marked on said slips at the time the entries in purple ink were made on said line?

A. I cannot be positive at this late date, but am perfectly satisfied that they were so made.

X Q. 44. Were there any differences between Mr. Walker and Mr. Andrews concerning the matters which, as you state in answer to question 8, resulted in a compromise? If so, what were those differences and how was the compromise effected?

A. I have no definite recollection in regard to it, except from the fact of there being a change in the date of charge, and a faint recollection in connection therewith.

X Q. 45. Do you know that as a matter of fact the change was the result of a compromise?

A. From memorandum in my handwriting before quoted on the record in my answer to Q. 4, that this change in bill was agreed with Mr. Walker and Mr. Andrews.

X Q. 46. Does that memoranda contain any reference whatever to a compromise?

A. My recollection of the instrument being placed and service given of various dates prior and antecedent to the dating of the bill, as finally paid, would naturally suggest to me in connection with this memorandum that the date September 1st was a compromise; that my using the word agreed there was the same in my mind as compromise; in that manner I used it before.

X Q. 47. From what information did you make that memoranda?

A. I think from the writing above my memorandum on American District Telegraph Company's paper, to the best of my knowledge made in their office by them, and the indorsement on bill by Mr. Walker.

X Q. 48. Is there anything contained in Mr. Walker's indorsement on the bill slip No. 6 indicating compromise, and might there not have been other reasons for agreeing to the change indicated?

A. With regard to the indorsement, it simply showed me that I was to date my charge from September 1st, 1878, by Mr. Walker's orders. I was not in position to ask or know his reasons for giving me such orders. It might or might not. I have no recollection on the subject that can fix any answer more definite.

X Q. 49. Referring to page 124, collector's ledger, can you swear positively that the entry on line 24, and date June 27, was entered prior to the 30th of August, 1878, occurring on the line next preceding said entry?

A. I cannot swear positively that it was, but have no reason to doubt it.

X Q. 50. Is there anything contained in the entry on line 24, referred to, to indicate when it was entered, or is there anything in the system by which the accounts on page 124 were kept to indicate the time when any entry thereon was made? If so, state what that system may be.

A. There is nothing to absolutely prove the exact date at which any entry was made. The columns in which the monthly entries were made were for the month designated at the head of the column, and my system was for new entries to enter them during that month at about the time the service was completed and the slips handed me to charge from. In case of continued contracts transferred from an old ledger the entries might have been made at any time before the expiration of the old ledger, whether the service was continued or not.

X Q. 51. I call your attention to the entries in June column, lines 13 to 18, inclusive, and request you to state whether or not said entries indicate the month from which the charge is to begin.

A. The fact that the entries occur there signify that the service commenced and was to be charged for from some part of this month, as indicated in the preceding column, headed "service." This same entry might be in a preceding or succeeding ledger if this service had been given in a preceding or subsequent year. The last entry referred to, line 18, New York Tribune, appears here simply through clerical error. From reference to the preceding ledger, I am satisfied that these were new accounts, the service for which commenced at the several dates specified under the column of service. I refer to similar entries on folio 127, ledger 6.

X Q. 52. When did the service for the lines entered on the two succeeding lines, 19 and 20, begin, as indicated in the entry?

A. July 15th and July 25th.

X Q. 53. And the amounts are charged in what column?

A. The amounts are charged in July column.

X Q. 54. The accounts entered on the next succeeding lines, 21 to 23, inclusive, are entered in which column of months?

A. The first appears to be simply a clerical error; the other two are entered in the August column.

X Q. 55. And with the single exception of the entry on line 24 all the succeeding entries occur in the order of the service in the columns marked with the successive months. Does not this circumstance indicate that the entry on line 24 was made subsequent to the charge for service on the lines 21, 22, and 23?

A. Not necessarily. Knowing that I expected to have other entries in connection with this customer, I might have made my entry further down the page, to allow myself to have these entries together for greater convenience to myself or for future reference.

X Q. 56. Do you state this as a fact or an inference to account for that entry?

A. I cannot state positively with regard to this entry, but from my natural habit in making such entries.

X Q. 57. Can you refer to another instance of the same kind in this book?

A. I cannot.

X Q. 58. Did not the reasons given in your answer to question 55 apply equally well when you made the entry on line 20?

A. It might have done so; I have no recollection.

X Q. 59. Who made the entries on the line marked "Charge" in the order-slips, "Butler's Exhibits Nos. 7 to 11, inclusive?"

A. I made them.

X Q. 60. Please state how you connect Butler's Exhibit No. 6 with the charge on page 88 of the collector's book, referred to in your answer to question 12.

A. I can make no connection.

X Q. 61. The same question with respect to Exhibit No. 7 and the entry on page 102.

A. I had another order for private line, and by reference to my entry on this slip show that my charge was made on private-line blank. A change in charge on ledger in rate of payment during this month from \$40 per month to a less amount corresponding with the rate per month designated by the secretary for service covered by this order.

X Q. 62. In making the entries in the collector's ledger did you invariably enter the amount or rate in the column under the month from which the service or charge was to begin?

A. The amount in the column under the month designated that that was the charge for that month, if the service was paid for monthly. If it was an annual service it would be in the month from which service dated, as per page 124. This was my system.

X Q. 63. What were the entries on page 130, collector's ledger, made from?

A. From the slips before referred to.

X Q. 64. Are you sure they were made from the slips and not from the other entries contained in the same book ?

A. The proof that they were made from the slips and not from other entries is evident from their having the number of the order on which these telephones were put in, which do not appear on the other entries.

X Q. 65. Was that account kept concurrently with the account on page 124, a copy of which last is in evidence as "Massa's Exhibit, Collector's Ledger?"

A. It was kept at the same time as a basis from which to make my charges in a subsequent year, to the best of my knowledge and belief.

(The notary is requested to make a fac simile of page 130 of collector's ledger No. 7, referred to by the witness, and to verify the same and mark it in evidence as "Massa's Second Exhibit, Collector's Ledger.")

X Q. 66. Please look at page 129 of collector's ledger No. 7, and state what the entries on that page represent and when they were made.

A. It appears to have been started as a memorandum account, which, from red-ink cross-entries, would designate the same account as page 130.

X Q. 67. What is the date of the last entry on that page?

A. October 15th, '78.

X Q. 68. From an inspection of page 129, are you enabled to determine whether or not the account on page 130 was begun prior to October 15, 1878?

A. I cannot fix the date at which the entries were made on either of these pages.

X Q. 69. I have not asked you in my preceding question to fix the date. I merely wish to ascertain whether the account on page 130 was made up or begun after the last date appearing in the account on page 129.

A. I cannot say whether it was or not.

X Q. 70. What is your best recollection on the subject?

A. The only recollection I have in regard to this account is that it was a memorandum of the different styles of telephones rented to the American District Telephone Company, from which I expected to make basis of charge for service in subsequent year.

X Q. 71. Do not red-ink indorsements on page 129, "See folio 130," indicate that the account on page 129 was transferred or supplanted by that on page 130?

A. It would be a supposition but not necessarily a fact.

X Q. 72. What other explanation can you offer?

A. That it might have been to designate in one column the total number of the different telephones they had in use.

(Counsel for Drawbaugh requests the notary to make a copy of page 129 and mark the same "Massa's Third Exhibit, Collector's Ledger." Counsel for the Office instructs the notary to defer making the copy until he shall have had an opportunity to obtain permission from the proper authority to comply with the request.)

X Q. 73. To what do the numbers in the column marked "Order number," first eight lines of page 130, collector's ledger No. 7, refer?

A. To the slips or "Orders for Telephones," as on slip 1, Wiley's Exhibit, American District Company's orders, under the heading "Approved," and opposite "Prog. No. 92," corresponding to the entry on third line.

X Q. 74. Were the entries referred to on the slip serial numbers, and were they so understood?

A. The progressive number of the order issued was serial, to the best of my knowledge.

Cross-examination closed.

J. C. MASSA.

NO. 150 BROADWAY, NEW YORK CITY,
January 31st, 1890.

Met pursuant to agreement at the office of C. E. Davidson, room 47, No. 150 Broadway.

DEPOSITION OF ALBERT KINKEL.

Taken pursuant to the above orders, notices, and agreements at the last-mentioned office this 31st day of January, 1890, commencing at 2.15 o'clock, p. m. Present, counsel as before.

ALBERT KINKEL, a witness in behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed by Julian C. Dowell, esq., counsel for the Patent Office, as follows, to wit:

Q. 1. What is your name, age, residence, and occupation?

A. Albert Kinkel; age, 41; residence, Elizabeth, New Jersey; occupation, ship-broker.

Q. 2. What was your occupation in the year 1878?

A. Steamship agent and ship-broker.

Q. 3. Were you in business alone at that time?

A. No, sir; associated with Charles L. Wright & Co.

Q. 4. In what capacity were you associated with them?

A. Partner.

Q. 5. Did your firm in the year 1878 have occasion to use speaking telephones in the transaction of its business, and, if so, did you make application to any one to erect a telephone for you?

A. I wish to answer the first part, that we did have occasion to use telephones in the year 1878; application was made to us; we did not make application at all for telephones; it was solicited, you know.

Q. 6. Can you state the name of the person who called upon you in respect to the erection of telephones at that time?

A. I have a recollection that his name was Mr. Wood.

Q. 7. What was the result of the interview with Mr. Wood?

A. He made various visits to the office, and we eventually hired an instrument for one year.

Q. 8. Did you enter into any contract for this purpose?

A. Yes, sir.

Q. 9. Please look at the paper I now show you, and state what it is, if you know, and whether you recognize any of the signatures at the bottom of the instrument.

A. I should take this to be a contract between ourselves, Charles L. Wright & Co., and the Gold and Stock Telegraph Company. The signature of Charles L. Wright & Co. I recognize as mine.

Q. 10. You say you recognize this instrument as a contract between the firm of Charles L. Wright & Co., of which you were a member, and the Gold and Stock Telegraph Co. for the erection of a speaking telephone for use in your business?

(Question objected to as containing a misstatement of facts, leading in its nature, and calling for secondary evidence, the paper itself being the best evidence of its nature and contents.

Question withdrawn.

The notary will please mark the instrument shown to the witness in evidence "C. L. Wright & Co. Contract," and the same is hereby introduced.)

Q. 11. Can you state when that instrument was executed?

A. The 1st day of July, 1878. I find it so stated in the contract.

Q. 12. Have you an independent recollection as to the date?

A. I have not.

Q. 13. You have stated, however, that the signature of Charles L. Wright & Co. was made by you, and, upon examining the instrument, what is your recollection as to the fact of its having been executed on the day it is dated?

A. I can't say that I have any recollection of the day, merely about that time, about that year.

Q. 14. You are satisfied, however, that the signature is yours and that the instrument was executed by you as a member of C. L. Wright & Co. as one of the parties to the contract?

A. Yes, sir.

Q. 15. Can you state whether or not a telephone was erected at your place of business in pursuance of this agreement?

A. Yes, sir; it was.

Q. 16. About when, to the best of your recollection, was the telephone put up?

A. In the summer of 1878 sometime.

Q. 17. Have you any means of fixing the date more definitely than you have stated?

A. Yes, sir; I looked in my ledger and found that the charge commenced in August for the telephone, Gold and Stock Company. I found a charge in the ledger dated August the 12th, 1878, for the payment made to the Gold and Stock Telegraph Company, telephone \$16.90. The

date August 12th and the part payment of one month's hire of \$16.90 would indicate to my mind that the service commenced somewhere about the 1st of August.

Q. 18. Have you the book present in which this entry was made?

A. No, sir.

Q. 19. And are you willing to produce it for the inspection of the opposing counsel?

A. If I am properly ordered to do so.

Q. 20. Can you state the character of the instrument which was put up for you in the summer of 1878 as you have stated?

A. It was described by Mr. Wood, the canvasser, and was shown to me by the parties who put up the instrument, as being a carbon instrument, or rather that it had carbon buttons back of the diaphragm.

Q. 21. Are you able to designate the instrument as of the make of any particular person?

A. It was known to be the Edison instrument, I understood.

Q. 22. Describe the instrument as nearly as you can.

A. I remember that it had a shelf or desk attachment and not as long as the present instrument in use. It also had a fixed arm on one side you spoke into.

Q. 23. Are you acquainted with the instrument now in use known as the Edison carbon telephone?

A. No, sir.

At the request of the witness to be relieved, by reason of pressing engagements, his examination is suspended until further notice.

Adjourned until Saturday, February 1st, 1890, to meet at 41 East 49th street, at the laboratory of Professor C. F. Chandler, at half past 10 o'clock a. m.

150 BROADWAY, NEW YORK CITY,

February 6, 1890, 11 a. m.

Met pursuant to agreement. Present, counsel as before.

TESTIMONY OF MR. KINKEL—Resumed.

Q. 24. Mr. Kinkel, have you examined the entries in the ledger to which you referred in answer to question 17 in the presence of counsel for Drawbaugh and for the Patent Office, and, if so, what entries did you find?

A. I did examine the ledger of Charles L. Wright & Co. in presence of the counsel named, and found an entry under the title of an account of Thomas Wilson, Sons & Co., dated August the 12th, 1878, "Gold and Stock Telegraph Co., telephone \$16.90." Again, second charge, September 20th, 1878, "Gold and Stock Telegraph Co., telephone \$55." Again, October the 14th, 1878, "Gold and Stock Telegraph Co., rent telephone \$55," and found further entries for the same amount and similar item for each subsequent month for some months thereafter.

Q. 25. Was the ledger referred to a book kept by C. L. Wright & Co. in the regular transaction of its business at that time?

A. Yes, sir.

Q. 26. State whether or not you had any conversation with Mr. Wood, to whom you have referred in your testimony, before the telephone was put up for you in respect to its efficiency as compared with other telephones then in use, and, if so, state your recollection as to what was said on this occasion.

A. I had such conversation, and the great merit of the telephone which he wished me to hire for that purpose was in the fact that they had a carbon button back of the diaphragm, which had proven very successful and avoided much of the trouble that other telephones were then laboring under.

Q. 27. Did you use the telephone put up for you as you have stated in the summer of 1878?

A. Yes, sir; many times.

Q. 28. How soon after it was put up did you commence to use it?

A. Immediately after.

Q. 29. How long did you continue to use it?

A. I think it was some two or three years. Three years is my recollection.

Q. 30. Was the instrument explained to you at the time it was put up? If so, state your recollection as to what was said.

A. The workmen in putting up the instrument in the office opened the parts at the back of the diaphragm, explained and showed me the carbon button of which they made such strong claims.

Direct examination closed.

Cross-examination :

X Q. 31. Did Mr. Wood offer to sell you the instrument or did you make any overtures looking to the purchase of the same?

A. I think not; simply asked me to hire it by the month.

X Q. 32. Do the entries on your book, or the books of Wright & Co., to which you have referred, relate to sums paid for the rent of the instruments under the contract of July, 1878?

A. Yes, sir.

X Q. 33. Were you given to understand that the rent would become due from the date of the contract or from the time when the telephones should be put in and were accepted as satisfactory?

A. From the time the telephone was put in and put in working order.

X Q. 34. And have you any means other than your account-book for determining definitely just when the telephone was put in under that contract?

A. I have not.

Cross-examination closed.

ALBERT KINKEL.

(Counsel for the Office offers in evidence certified copies of original records on file at the Signal Office, War Department, Washington, D. C., with attached officially indorsed letter, and the same is marked "Exhibit War Department Records.")

Also, certified copy of paid and canceled check, No. 28,673, drawn October 26, 1878, upon the assistant treasurer of the United States at New York by H. W. Howgate, first lieutenant and disbursing officer, to the order of R. H. Rochester, treasurer Gold and Stock Telegraph Company, for \$1,644, together with traced copy of indorsements thereon, and attached letter from the Secretary of the Treasury forwarding the same to the Secretary of the Interior, and the same is marked "Exhibit Howgate Check, etc."

Also, a certified copy from the records of the Treasury Department of a contract dated July 2d, 1878, between the Gold and Stock Telegraph Company and C. A. Arthur, collector of customs at the port of New York, together with attached letters dated July 2d, 1878, and July 5th, 1878, from George Walker to C. A. Arthur, and a letter from said Department transmitting the same, and the same is marked "Exhibit C. A. Arthur Contract and Letters."

Also, certified copies of original letters from the files of the Treasury Department, with accompanying letter from the Acting Secretary of the Treasury, and the several papers attached are marked in evidence "Exhibit Treasury Department Letters."

Also, the contract and agreement referred to in the testimony of a previous witness, Prof. C. F. Chandler, marked for identification "Chandler's Application and Contract with the Gold and Stock Company," and the same is marked "Exhibit Health Department Contract.")

WASHINGTON, D. C., *January 29, 1890.*

In the matter of the application of Daniel Drawbaugh, filed Apr. 3, 1884; serial No. 126,527. Telephones. Public use proceeding.

Messrs. CHURCH & CHURCH,

Attorneys for Drawbaugh, Washington, D. C.:

GENTLEMEN: In the above-entitled proceeding and under the provisions of rule 154(7), you are hereby notified that I shall use as evidence the following printed publications, on file in the library of the United States Patent Office, referring specially to the matter contained on the pages noted below, to wit:

An article by S. M. Plush, entitled "Edison's Carbon Transmitter and the Speaking Phonograph," pp. 266 to 269 of the Journal of the Franklin Institute for April, 1878. Vol. 105, Franklin Journal.

An article entitled "Edison's Carbon Telephone," page 114 of the Journal of the Telegraph for April 16th, 1878. Vol. XI, Journal of the Telegraph.

A similar article from the last-named publication in the Scientific

American Supplement, June 8th, 1878. Vol. V, Scientific American Supplement.

An article entitled "The Carbon Telephone," p. 353 of the Scientific American, June 8th, 1878. Vol. 38 of the Scientific American.

An article entitled "The Telephone and the Phonograph," in Scribner's Monthly for April, 1878, beginning on page 848, but particularly the matter contained on pages 853 to 855, inclusive. Vol. XV of Scribner's Monthly.

An article entitled "The World's Work," in Scribner's Monthly for August, 1878, pp. 600 to 602. Vol. XVI of Scribner's Monthly. Apparently taken from Prescott's Work on the Telephone for 1878.

An article entitled "Edison's Speaking Telephone," pages 34 to 39, inclusive, of "Prescott's Speaking Telephone, Talking Phonograph, and other Novelties." Edition of 1878.

And articles on pages 34 to 39 and 564 to 568, entitled, respectively, "Edison's Speaking Telephone" and "Edison's Carbon Telephone," in Prescott's "Speaking Telephone and Electric Light." Edition of 1879.

Very respectfully,

J. C. DOWELL,
Counsel for Patent Office.

Copy of above notice accepted this 30th of Jan'y, 1890.

CHURCH & CHURCH,
Attys. for Drawbaugh.

NEW YORK, *March 22, 1890.*

In the matter of the application of Daniel Drawbaugh. Public use proceeding.

It is hereby stipulated and agreed between counsel that the several copies of letters and extracts of letters attached together and bearing the initials of the notary, C. E. Davidson, are true copies from the records of the Gold and Stock Telegraph Company, the letter of George Walker to Gen. E. A. Merritt, surveyor of the port of New York, dated May 25th, 1878, being copied from pages 638-9 of letter-press copy-book entitled "The Gold and Stock Telegraph Co., executive office, miscellaneous;" the letter from said Walker to Hon. Dan'l L. Harris, sec'y Eastern R. R. Association, dated April 4th, 1878, being an extract from letter-press copy-book No. 6, pages 228 to 230, entitled "President's Book," and covering a period from February 15th, 1878, to May 25th, 1878, and the remaining letters being copied from letter-book No. 7, entitled "President's Book," covering a period from May 25th, 1878, to July 30th, 1878, the said books No. 6 and No. 7 being the same books as those referred to and identified in the testimony of the witnesses Abijah R. Brewer and Samuel M. Taylor, heretofore examined in this case, and the several

letters and extracts occurring in regular order according to date in the said books.

The several letters covered by the foregoing stipulation are attached together and marked in evidence as "Exhibit Additional Letters from the Records of the Gold and Stock Company," and such copies are admitted in evidence with the same force and effect as if regularly introduced during the examination of the witness Abijah R. Brewer.

J. C. DOWELL,
Counsel for Patent Office.
CHURCH & CHURCH,
Attorneys for Drawbaugh.

WASHINGTON, D. C., August 15, 1890.

In the matter of the application of Daniel Drawbaugh, filed April 3, 1884; serial No. 126,527. Telephones. Public use and sale proceeding.

In the above-entitled matter it is hereby stipulated and agreed between counsel that if Edward Farquhar, of Maryland, were called as a witness in this case he would testify as follows:

That he is of full age and resides at Washington, D. C.; that he occupies and has occupied since 1865 the position of assistant in the scientific library of the U. S. Patent Office; that from the records of said library he is enabled to state that the publications hereinafter mentioned were received and on file in said library as follows, viz: An article by S. M. Plush, entitled "Edison's Carbon Telephone Transmitter and the Speaking Phonograph," published in the Journal of the Franklin Institute for April, 1878, and contained on pages 266 to 269, inclusive, of vol. 105 of the Franklin Journal, on file in said library, was received and filed in said library on the 5th day of April, 1878; that an article entitled "The Telephone and the Phonograph," published in Scribner's Monthly for April, 1878, and contained on pages 848 to 855, inclusive, of bound vol. XV of Scribner's Monthly, was received and on file in said library on the 19th day of April, 1878; that an article entitled "Edison's Carbon Telephone," published in the Journal of the Telegraph for April 16, 1878, and contained on page 114 of vol. 9 of the Journal of the Telegraph, was received and on file in said library on the 19th day of April, 1878; that an article entitled "The Carbon Telephone," published in the Scientific American June 8, 1878, page 353 of said issue, and bound in vol. 38 of the Scientific American, was received and on file in said library on the 31st day of May, 1878; that the article published in the Scientific American Supplement of June 8, 1878, page 2024 of vol. V of the Scientific American Supplement, which article was apparently taken from the Journal of the Telegraph for April 16, 1878, above noted, was received and on file in said library

on the 1st day of June, 1878; that an article entitled "The World's Work," published in Scribner's Monthly for August, 1878, pages 600 to 602, inclusive, and bound in vol. XVI of Scribner's Monthly, which article was apparently taken from Prescott's work on the telephone, edition of 1878 (mentioned hereinafter), was received and on file in said library on the 20th day of July, 1878; that Prescott's work, entitled "The Speaking Telephone, Talking Phonograph, and other Novelties," edition of 1878, containing on pages 34 to 39, inclusive, an article entitled "Edison's Speaking Telephone," was received and on file in said library on the 25th day of June, 1878; that Prescott's work, entitled "The Speaking Telephone, Electric Light, and other Recent Electrical Inventions," edition of 1879, containing on pages 34 to 39, inclusive, and pages 564 to 568, inclusive, articles entitled respectively "Edison's Speaking Telephone" and "Edison's Carbon Telephone," was received and on file in said library on the 2d day of August, 1879; and that each of the aforesaid publications was open to the inspection of the public and to all employes of the Office having occasion to refer to any of the aforesaid records of the said library on and after the several dates mentioned at which the respective publications were placed on file in the scientific library of the U. S. Patent Office.

It is also hereby stipulated and agreed that William R. Bushby, of the Signal Office at Washington, D. C., if called as a witness in this case, would testify as follows:

That he is of full age and resides in Washington, D. C.; that he is, and has been, an employe of the Signal Office since 1871; that he now occupies the position of chief clerk of the accounts division; that during the year 1878 he occupied the position of assistant chief clerk in the property and disbursing division in the office of the Chief Signal Officer; that during the year 1878 he was familiar with the receipts and disbursements of all goods and supplies received for the use of the Signal Office; that by reason of his position at that time he was familiar with the books and records of said office, and particularly with the receiving-clerk's books for 1878, and had a general knowledge of the matters and things recited in the last-mentioned books; that he was also at that time familiar with the handwriting and entries contained in said books; and that the receiving-clerk's book for 1878, covering a period from November 28, 1877, to October 17, 1878, one of the records of the Signal Office, contains on page 168 an entry which reads as follows:

JULY 23, 1878.

2 B. Ex.	Rec'd from Western Union Tel. Co., N. Y. City,
Capt. H.	2 crown telephones,
" "	2 Edison transmitters;

that he personally knows that the Signal Office received from the Western Union Telegraph Co. or the Gold and Stock Telegraph Co. of New York City during the year 1878, for the use of said office, a large number of telephones of various kinds, among which were Edison

transmitters, and that the above entry relating to Edison transmitters was made, as he verily believes, in the regular course of business on or about the date of said entry; that the abbreviation "Capt. H." indicates that the telephones referred to in said entry were turned over to Capt. H. W. Howgate, who was at that time property and disbursing officer; that the original letter of which the following is a copy from the press-copy book, vol. 65, page 43, of the accounts division (known in 1878 as the property and disbursing division) he believes was written and mailed in the ordinary course of business on or about July 25, 1878; that said letter refers to the said two crown telephones mentioned in the above-quoted entry; that said letter is not signed, for the reason that at that time it was the custom of the office to press-copy letters sent before signing the same; and that the aforesaid letter reads as follows:

JULY 25, '8.

GEO. B. PRESCOTT, Esq.,
Electrician W. U. Tel. Co., New York City:

SIR: Please furnish this office at your earliest practicable convenience with 10 sets crown telephones, same as the set furnished on the 23d inst.

Very respectfully,

1st Lieut., P. and D. Offc., S. S., U. S. A.

J. C. DOWELL,
Counsel for Patent Office.

CHURCH & CHURCH,
Attorneys for Daniel Drawbaugh.

In the matter of the application of Daniel Drawbaugh, filed April 3, 1884;
serial No. 126,527. Telephones. Public use proceeding.

NEW YORK, August 8, 1890.

It is hereby stipulated and agreed between counsel present that Thomas D. Lockwood, of Boston, Mass., if called as a witness in this case, would testify as follows:

That he is advisory electrician and expert in charge of patent matters for the American Bell Telephone Company; that during the year 1878 he was employed by the American District Telegraph Company of New York City as chief inspector and electrician; that he has been intimately acquainted with the introduction of the Edison carbon telephone since the early part of 1878; that during the spring and summer of 1878 he was intimately acquainted with the telegraph and telephone lines of the Gold and Stock Telegraph Company, including the lines running from the Western Union building, No. 195 Broadway, to the 23d-street office of the Gold and Stock Company; that he is the same T. D. Lockwood mentioned in the article on pages 199 and 200 of the Journal of the Telegraph, issued July 1, 1878, and wrote the manuscript.

from which said article was published ; that he, in company with other members of the convention of American district-telegraph superintendents and general managers, visited the Western Union building, No. 195 Broadway, New York City, as stated in said article, on the invitation of the Honorable George Walker, vice-president of the Gold and Stock Telegraph Company, for the purpose of inspecting that company's telephones and telephone system, and on the date given in said article, to wit, June 14, 1878 ; that a feature of that exhibition was the Edison carbon telephone, which was set up in circuit with a line or lines connecting the exhibition-room at the Western Union building with the 23d-street office of the Gold and Stock Company as aforesaid ; that the Edison carbon telephone was successfully operated and exhibited on the occasion stated in said article to various members of the convention in attendance at the exhibition ; that he, the said T. D. Lockwood, personally talked through the Edison carbon transmitter and listened at the receiving instrument, also connected with the 23d-street office, in circuit with the Edison carbon transmitter, and recognized the voices of individuals with whom he was acquainted, who talked into the transmitting end of the line ; that he knows George L. Wiley, a witness, whose deposition has already been given in this case, and that the said Wiley was present at the said exhibition and operated, exhibited, and explained to the members of the convention the Edison carbon transmitter and its construction ; that the Edison carbon transmitter used on the above occasion operated as successfully in transmitting vocal utterances as any instrument of this type or class which he has ever seen, and the purpose of the exhibition was to induce the members of the American district convention of superintendents and general managers to become agents for the introduction of the Edison carbon transmitter.

J. C. DOWELL,
Counsel for the Patent Office.
CHURCH & CHURCH,
Counsel for Drawbaugh.

Signed at New York, N. Y., Aug. 8, 1890.

STATE OF NEW YORK,
County of New York, ss :

I, Caroline E. Davidson, a notary public within and for the county of New York and State of New York, do hereby certify that the foregoing depositions of Albert Kinkel, Charles F. Chandler, Thomas A. Edison, Charles Batchelor, George M. Phelps, Abijah R. Brewer, Howard R. Butler, George B. Scott, George L. Wiley, Samuel M. Taylor, and Joshua C. Massa were taken on behalf of the United States Patent Office, in pursuance of the notice hereto annexed, before me at

the various places mentioned on said depositions in the city of New York, and at Orange, New Jersey, on the following days: January 31, February 1, 3, 4, 5, 6, 12, 13, 14, 15, 17, 18, March 13, 14, 15, 17, 18, 19, 20, and 21; that each of said witnesses was by me duly sworn before the commencement of his testimony, with the exception of Thomas A. Edison and Charles Batchelor, who were duly sworn by a notary public of the State of New Jersey (it being stipulated and agreed between counsel that I should act as notary in taking the testimony of these two witnesses and marking the exhibits introduced during their testimony, and that they should be duly sworn by a notary public for the State of New Jersey); that the testimony of each of said witnesses was written out by myself; that the opposing party, Daniel Drawbaugh, was present by counsel during the taking of said testimony; that said testimony was taken at New York City, and at Orange, New Jersey, and was commenced at 10 o'clock on the 31st day of January, 1890, and was continued, pursuant to adjournment, on the 1st, 3d, 4th, 5th, 6th, 12th, 13th, 14th, 15th, 17th, and 18th days of February, and the 13th, 14th, 15th, 17th, 18th, 19th, 20th, and 21st days of March, and was concluded on the 22d day of said month; that I am not connected by blood or marriage with either of said parties, nor interested directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed my seal of office, at the city of New York in said county, this 17th day of April, A. D. 1890.

[SEAL.]

C. E. DAVIDSON,
Notary Public (82) New York County.

In the matter of the application of Daniel Drawbaugh for improvement in telephones, filed April 3d, 1884; serial number 126,527. Public use proceedings.

Messrs. CHURCH & CHURCH,
Washington, D. C.:

GENTLEMEN: The following is a list of witnesses that will be called by the Patent Office in taking testimony pursuant to the orders of the Examiner of Interferences dated November 25th, 1889, and January 13th, 1890, and in accordance with the Commissioner's orders of November 11th, 1889, and January 9th, 1890:

Thomas A. Edison, Orange, New Jersey; C. F. Batchelor, 33 West 25th street, New York City; C. F. Chandler, Columbia College, 41 East 49th street, New York City; Howard R. Butler, Yonkers, N. Y.; G. B. Scott, place of business 16 Broad street, New York City; residence, Lakewood, N. J.; George L. Wiley, place of business 18 Cortlandt street, New York City; residence, Arlington, N. J.; Samuel M. Taylor, place of business 195 Broadway, New York City; residence, Brick

Church, N. J.; A. R. Brewer, place of business 195 Broadway, New York City; residence, Glen Ridge, N. J.; George M. Phelps, place of business 150 Broadway, New York City; residence, Brooklyn, N. Y.; E. Ward Wilkins, place of business 114 South Second street, Philadelphia, Pa.; residence, Philadelphia, Pa.; J. C. Massa, place of business, care Bert & Co., 60 West 23d street, New York City; residence, West Orange, N. J.; and probably others.

Mr. Edison and Mr. Batchelor will probably be examined at Orange, N. J., and the others in New York City.

It is the expectation of counsel for the Patent Office to be ready to proceed with the taking of this testimony during the week commencing Monday the 27th instant. You will receive further notice, however, of the time and place of examination in accordance with an oral understanding with you to accept a short notice of time and place, and every endeavor will be made to make the time accord with your convenience, so that you may attend and cross-examine.

Very respectfully,

JULIAN C. DOWELL,
Counsel for Patent Office.

WASHINGTON, D. C., *Jan'y 21st*, 1890.

Service accepted this 21st day of January, 1890.

CHURCH & CHURCH,
Att'ys for Drawbaugh.

WASHINGTON, D. C., *January 27*, 1890.

In the matter of the application of Daniel Drawbaugh, filed Apr. 3, 1884; serial number 126,527. Telephones. Public use proceeding.

Messrs. CHURCH & CHURCH,
Attorneys for Drawbaugh, Washington, D. C.:

GENTLEMEN: In the above-entitled matter take notice that on Thursday, January 30th, 1890, at 11 o'clock a. m., at the laboratory of Thomas A. Edison, esq., at Orange, New Jersey, I shall proceed to take the testimony of the witnesses whose names and residences were served upon you in the notice of the 21st instant. Thomas A. Edison and Charles Batchelor, and perhaps others, will be examined at the above-mentioned place, commencing at the time stated, and at the close of their examination, or as soon as practicable after closing the testimony at Orange, the examination of other witnesses named in the aforesaid notice will be resumed at a suitable time and place in New York City, of which notice will be given you at the first examination. Albert Kinkel, of Elizabeth, N. J., doing business at 33 Broadway, New York City, will also be called as a witness at the examination in New York City.

The examination will be continued from day to day until completed.
You are invited to be present and cross-examine.

JULIAN C. DOWELL,
Counsel for Patent Office.

Due and sufficient notice of the examination of witnesses named in the above and former notice is hereby accepted.

Jan'y 27, '90.

CHURCH & CHURCH,
Attorneys for Drawbaugh.

LABORATORY OF THOMAS A. EDISON,
Orange, N. J., Feb. 3, 1890.

In re application of Daniel Drawbaugh, filed April 3, 1884; ser. No. 126,527. Telephones. Public use proceeding.

It is hereby stipulated and agreed between counsel in the above-entitled matter that Thomas A. Edison and Charles Batchelor may be sworn as witnesses in this cause by John F. Randolph, a notary public of the State of New Jersey; that said witnesses may be examined at the Edison laboratory at Orange, N. J., and their testimony written out by C. E. Davidson, a notary public of the State of New York; that said C. E. Davidson shall mark all exhibits and make the certificate required by section 3 of rule 154 of the Rules of Practice of the Patent Office, to be attached to the depositions, and that such depositions so certified and filed in the Patent Office, together with any exhibits offered in evidence during the examination of the aforesaid witnesses, shall be received in evidence with the same force and effect as if such depositions were taken before, and certified by, a notary public of the State of New Jersey.

JULIAN C. DOWELL,
Counsel for Patent Office.
CHURCH & CHURCH,
Attorneys for Drawbaugh.

STATE OF NEW JERSEY,
County of Essex, ss :

I, John F. Randolph, a notary public within and for the county of Essex and State of New Jersey, do hereby certify that, in pursuance of the foregoing stipulation, the aforesaid witnesses, Thomas A. Edison and Charles Batchelor, were each by me duly sworn according to law, and that their testimony was taken, in accordance with the aforesaid agreement of counsel, on the 3d, 4th, and 5th days of February, 1890, and written out by C. E. Davidson, a notary public of the State of New York; that I am not connected by blood or marriage with either of said parties, nor interested directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed my seal of office, at Orange in said county, this 11th day of August, 1890.

[SEAL.]

JOHN F. RANDOLPH,
Notary Public.

WASHINGTON, D. C., *August 2d*, 1890.

Before the Commissioner of Patents in the matter of the application of Daniel Drawbaugh, filed April 3, 1884; serial number 126,527. Telephones. Public use proceeding.

Messrs. CHURCH & CHURCH:

GENTLEMEN: You are hereby notified that on Tuesday, August 5th, 1890, at the office of E. Aug. Miller, No. 202 South Fifth street, Philadelphia, Pa., I shall proceed to take the testimony of E. Ward Wilkins, Samuel M. Plush, William Pitt Phelps, and perhaps others, whose names have heretofore been served upon you, as witnesses on behalf of the Patent Office. The examination will commence at 11 o'clock a. m., and, if necessary, will be continued from day to day until completed. You are invited to attend and cross-examine.

J. C. DOWELL,
Counsel for the Patent Office.

Service of the above notice acknowledged this 2d day of August, 1890.

CHURCH & CHURCH,
Attorneys for Drawbaugh.

[Office of E. Aug. Miller, esq., 202 So. 5th st.]

PHILADELPHIA, PA., *Aug. 5th*, 1890.

Before the Commissioner of Patents in the matter of the application of Daniel Drawbaugh, filed April 3, 1884; serial number 126,527. Telephones. Public use proceedings.

Deposition of witnesses examined on behalf of the Patent Office, pursuant to the annexed notice, at the aforesaid office of E. Aug. Miller, esq., on Tuesday, August 5th, 1890, commencing at 11 o'clock a. m.

Present: Julian C. Dowell, esq., on behalf of the Patent Office; Joseph B. Church, esq., on behalf of Daniel Drawbaugh.

It is consented by counsel present that the testimony may be written out by Mr. C. R. Morgan on the type-writer, the witness being duly sworn by Mr. E. Aug. Miller, notary public of Philadelphia County and City, State of Pennsylvania.

E. WARD WILKINS, a witness produced on behalf of the Patent Office, having first been duly sworn, deposes and says as follows:

Q. 1. Please state your name, age, residence, and occupation.

A. E. Ward Wilkins, Wenonah, Gloucester Co., N. J.; age, 31; occupation, manufacturer of electrical supplies; member of the firm of Partrick & Carter of Philadelphia, Pa.

Q. 2. What was your occupation in 1878?

A. I was a clerk with the firm of Partrick & Carter; it was my business to attend to the shipment of goods, to see that the goods were received from the factory, and that they were charged on the sales-book, and that they were properly packed and delivered if they were to go out of the city. It was also my duty to keep a general outlook as to the general condition of the business, and also to generally familiarize myself with the general business and transactions of the firm.

Q. 3. What was the business of Partrick & Carter generally in the year 1878?

A. Manufacturers of electrical instruments and supplies.

Q. 4. Did the firm of Partrick & Carter, during the year 1878, manufacture any telephones? If so, state for whom the telephones were made.

A. We manufactured in June and July, 1878, for Thomas A. Edison of Menlo Park, N. J., twenty-five carbon telephones.

Q. 5. How do you fix this date?

A. I fix the date by a record shown on page 199 of our factory job-book, which shows that telephones were made at that date, giving the names of the men that worked on them and the material used. I will also say that this book gives the ear-pieces, the covered tubes, the silk wire, the rubber mouth-pieces, the wood cases, and such other material as was used in the construction of the telephone.

Q. 6. What was the purpose of this particular book to which you have referred?

A. The book was used for the purpose of keeping a memorandum to show material used, the names of the men, and the time they worked on certain jobs, to enable us to figure accurately any jobs they might be working on, and also for the purpose of keeping a record of the special work that was done in the factory.

Q. 7. Is that book a book of original entries?

A. This is a book of original entries. The entries are perfectly familiar to me, as it is an every-day occurrence to look over books of this character, and was at that time. I am now speaking in reference to this particular book which I hold in my hand.

Q. 8. State, if you know, when the twenty-five carbon telephones made in June and July, 1878, as stated in your fourth answer, were completed.

A. They were completed on the 18th of July, 1878, packed up by me personally in six boxes, and shipped to Thomas A. Edison, Menlo Park, N. J., as shown on page 198 of our order or sales book of that

date. I will also give the price that they are charged at, to wit, the following charge:

Thomas A. Edison, Menlo Park, New Jersey, twenty-five telephones, at \$20.00 each	\$500.00
Six boxes, seventy-five cents each	4.50
Total	504.50

Q. 9. When and by whom were the entries in the order or sales book to which you have referred made?

A. The entry was made by Charles M. Wilkins, then book-keeper of the firm. The item of the six boxes was made by me.

Q. 10. You have not answered when they were made.

A. The entry was made on July 19th, and marked "delivered" with my usual mark July 18th.

Q. 11. Give the names of the men who did the work upon these telephones, as stated in your sixth answer.

A. I read the names of the men from the job-book referred to: Tripp, Gardner, Williams, Dougherty, Wilson, Dardenne, Clark, Conway. The entries were made in this book from which I am now reading by Herman J. Schneider, then in our employ as the foreman at the factory.

Q. 12. State how the instrument now shown you compares with the Edison carbon transmitters manufactured by Partrick & Carter in June and July, 1878, as you have stated.

A. They compare exactly; in fact, I believe that the sample submitted to me might be one of those we made, as we have in our possession at the present time the patterns from which the original castings were made.

(The instrument shown the witness and referred to in his last answer is in evidence as Edison's Exhibit No. 1.)

Q. 13. Will you produce the patterns referred to in your last answer?

A. The patterns can be produced at any time, as they are now in my possession. I will add that it is customary for us to keep all patterns for work we produce, as it is so much stock in trade for us, and we never let them go out of our possession. I now produce the patterns for inspection.

Q. 14. Look at the photograph now shown you, which is marked in evidence Batchelor's Exhibit No. 3, and state if you recognize it and what it represents.

A. I recognize the photograph very readily. It represents a man with the ear-piece to his ear, apparently listening to something on the telephone. One thing in particular in reference to the box or case: it shows our own patent giant sounder, which was used as a signal instead of a gong bell. We have in our possession yet one or more of the rubber ear-pieces, same as shown in the cut. I recognize in this photograph a telephone similar to one of those made by us, as stated in my testimony.

Q. 15. Look at the letters now shown you, marked Edison's Exhibit No. 7, Edison's Exhibit No. 8, Edison's Exhibit No. 9, Edison's Exhibit No. 10, and Edison's Exhibit No. 11, and state if you recognize the handwriting on any or all of them, and generally what you know concerning this correspondence.

A. As to Exhibit No. 7, I recognize the mark "Ans., F. S. C.," as the regular signature of Mr. F. S. Carter of our firm, who is there now. This reply also applies to Exhibit No. 8. As to Exhibit No. 9, I recognize this latter to be the handwriting of F. S. Carter of our firm. Exhibit No. 10 is the same; the handwriting is that of Mr. F. S. Carter of our firm. Exhibit 11, I recognize the handwriting of that as being that of F. S. Carter of our firm. The above letters referred to are in reference to correspondence regarding the making of carbon telephones, to which I have referred in my testimony.

Q. 16. Were the books which you have here present, and to which you have referred in the giving of your testimony, books of "original entry" kept in the regular transaction of business by the firm of Partrick & Carter at the time referred to in your testimony?

A. Yes, sir; they are the identical books, kept in the usual course of business at that time.

Q. 17. Referring to your answer to question ten, give the year when entry was made, and state if the delivery-mark was made on July 18th or July 19th.

A. The entry was made on July 19th, 1878, as shown by the heading of the page. The "D" mark, which signifies delivered as the 18th, was made on the 19th of July, 1878.

Q. 18. I observe that the patterns which you have produced are larger than the corresponding parts of the finished instrument shown you, marked Edison's Exhibit No. 1. Please explain this.

A. It is simply because all patterns from which metal castings are made are made larger, to allow a certain shrinkage which takes place in all cast work, and to allow for finishing to make the instrument in perfect shape. This can be readily understood by any one familiar with the castings from metal patterns.

Direct examination is now closed.

X Q. 19. Were the several instruments which you have testified were made by Partrick & Carter and shipped on the 18th of July, 1878, complete operative instruments when they left the factory?

A. Yes, sir; I believe they were.

X Q. 20. Do you know, of your own knowledge, that they each contained a carbon button?

A. No, sir; I do not, as I cannot call to my mind the particulars of the inside of them.

X Q. 21. Would the instrument be complete and a practical working instrument without the carbon button?

A. That question I cannot answer, for the simple reason that I was not familiar with Mr. Edison's invention at the time, as the making of telephones was something entirely new to us at the time we made those for Mr. Edison.

X Q. 22. Was the transmitting portion of the instruments tested at the factory before they were shipped?

A. It was customary with us then, and it is now, to test all goods before they leave our factory; but instruments of this class we would not be liable to adjust or put them in what we would call a working condition.

X Q. 23. I did not ask you as to your custom, but whether, to your knowledge, the instruments were actually tested.

A. It is a matter I cannot recollect.

X Q. 24. Referring to the "order or sales book," concerning which you have testified, please explain the meaning of the marginal entry, "p. 613," occurring on page 198, opposite the charge made in the name of Thomas A. Edison, and heretofore mentioned in your testimony.

A. It is simply a mark to show that the charge has been carried into the journal on page 613 of the journal, which is our usual form of book-keeping.

X Q. 25. Referring to the factory job-book mentioned in your direct examination, please state whether or not it was the custom to make the entries therein at the time the order for the work was given.

A. It was the custom to make the entry in the factory job-book when the work was actually started in the factory, and the record of the material and time shown put down in the book as the work progressed or was finished.

X Q. 26. Then the date appearing on page 199 opposite the entry "twenty-five carbon telephones" indicates the time when work on those instruments was begun. Am I correct?

A. No, sir; you are not entirely correct. It signifies that the work was then put in the hands of the several men to work upon. The entry under the name of "Tripp" shows the first work of the machinist upon his part of the telephones to have been done on June the 17th; work on the boxes or cases had likely been started before this, which, of course, would not be done in our immediate factory.

X Q. 27. Turning to page 200 of the same book, under the date 1878 I find an entry next succeeding that of the twenty-five carbon telephones, dated June 12. Please explain how the entry for June 12 happens to be made later than the entry of June 17th in the book.

A. The entry of June 12th, of course, refers entirely to separate work from the above, and has no connection with it. It merely shows that we started work on certain goods at that date, and, as frequently occurs, the men were taken from this certain work and put in some of their time on other goods. The item referred to was placed in the shop job-book after that of the telephone item, but the date was not put there

until after the goods were finished. The date of June the 12th was probably taken directly from the memorandum-book of the men who worked on the job.

Cross-examination closed.

E. WARD WILKINS.

Subscribed and sworn to before me this 5th day of Aug., 1890.

[SEAL.]

E. AUG. MILLER,
Notary Public.

OFFICE OF E. AUG. MILLER,

Philadelphia, Aug. 5th, 1890, 2 p. m.

SAMUEL M. PLUSH, a witness produced on behalf of the Patent Office, having first been duly sworn, testifies as follows:

Q. 1. Please state your name, age, residence, and occupation.

A. Samuel M. Plush; 48 years old; residence, Philadelphia; occupation, general manager of the Bell Telephone Co. of this city.

Q. 2. What was your occupation in 1878?

A. I was superintendent of the Philadelphia Local Telegraph Co.

Q. 3. State generally what duties you performed in that position at the time mentioned.

A. I had entire charge of the mechanical and operating portion of the business.

Q. 4. State what knowledge you had, if any, of the early use of the Edison carbon telephone.

A. I had considerable experience with the use of the carbon telephones when they first came from the shops. I remember of its being connected with the Franklin Institute, with the 11th-street opera-house, and Broad and Chestnut.

Q. 5. Please state the terminals of the lines mentioned in your last answer.

A. They all terminated at the office of the Philadelphia Local Telegraph Co., Third and Chestnut street.

Q. 6. Have you any memoranda or records relating to the erection of Edison carbon-telephone lines in the early part of 1878? If so, please state what you have.

A. I have in a book kept by me at that time, which I call my log or memorandum-book, in which I made note of the more important events occurring in the business.

Q. 7. Please read from the book which you have produced any entries you may find therein throwing light upon the early use of the Edison carbon telephone.

(All testimony concerning the contents of the book referred to and of other books, record, and memoranda is objected to as secondary evidence and inadmissible by consent. This objection is to apply to all testimony of this character without repetition on the record.)

A. I find in my memorandum-book under date of Feb. 4, 1878, the following entry: "Testing carbon transmitter with Edison on 7 at Menlo Park."

Under date of March 2d, 1878, I find the following entry: "Mr. Adams here from Menlo Park with Edison's carbon telephones. Made test to Wilm'n and back."

March 8th the following entry: "Test with phonograph and Edison's carbon telephones to Baltimore via Pittsburg. Failure."

Under date of March 10th is the following entry: "Making test with Menlo Park via New York, 138 miles, also to Menlo Park direct. Got talking distinctly, also singing. Words in conversation sound muffled."

Under date of March 13th: "Making telephone tests with Menlo Park with new disk spring. Test very satisfactory."

Under date of March 15th the following: "H. B. in New York, J. M. in Washington. Made telephone test 140 miles. Got what was said distinctly."

Under date of March 20th is the following entry: "Stringing wire to Franklin Institute for telephone exhibition to-night."

Under date of March 23d the following entry: "Removed telephones and Edison's transmitter to Broad and Chestnut street from Franklin Institute."

Under date of March 25th the following entry: "Put up at Broad and Chestnut Edison's set of telephones for test with this office."

Under date of March 28th the following entry: "One single-switch call-box put in at Louderback's, also one in this office."

Under date of April 2d the following entry: "Making test with New York; Batchelor here with Edison's carbon and G. M. Phelps with his improved transmitters." Preceding the last entry, under the date of April 1, is also the following entry: "Batchelor here from Menlo Park. Test with New York office very satisfactory."

Under date of April 3d is the following entry: "Test with New York for Rochester's benefit."

Under date of April 6th is the following: "Adjusting carbon transmitters here and at B. C. and telephones at Louderback's."

Under date of April 8th is the following: "Repairing wires in carbon transmitter broken at Broad and Chestnut street."

Under date of April 18th is the following: "Making test with Academy of Science at Washington from Tenth and Chest."

Under date of May 10th the following: "Edison's traps not arrived for exhibition. Bell's traps put up in H. B.'s office to work with exhibition."

Under the date of May 13th the following: "Put up at Centennial carbon transmitter. J. M., H. B., and I out in P. M."

Under the date of May 24th is the following: "Putting up carbon telephone and resistance-coil for Louderback."

Under date of June 1 is the following: "Put in at opera-house, 11th street, carbon transmitter complete, for Chapman."

Under date of June 3d the following: "Brought in from opera-house carbon transmitter and battery."

Under date of June 8th is the following: "Adjusting phone and carbon transmitter for per. ex."

Under date of September 6th is the following: "Edison's phones removed from ex. and combination box changed."

Under the dates of Sept. 7th, 10th, 14th, 20th, 21st, and 23d, respectively, are the following entries: "Setting in Edison phone for Firth, in 4th st. and Girard st." Sept. 10th: "At Port Richmond and 4th street, adjusting Edison phones." Sept. 14th: "Phelps at Bridesburg arsenal with Edison combination phone. Set put up here." Sept. 20th: "Gardener at exhibition putting up Edison-Phelps phones." Sept. 21st: "At 1129 Girard street, adjusting transmitter. Rome & Gardener putting in carbon phones at Bailey's." Sept. 23d: "Edison trans. and call set up at Disston's and Taconey this a. m."

The book which I have consulted covers a period between March 30th, 1877, to Dec. 28th, 1880, and the entries that I have referred to are under the year 1878.

Q. 8. In whose handwriting are the several entries which you have read in making the foregoing answer and when were the entries made?

A. They are in my handwriting, and the entries were made by myself at or about the time of the respective dates. It was my custom to make them at the close of each day.

Q. 9. State your recollection concerning the facts recited in the entry under date of March 20th, 1878.

A. My recollection is that there was to be a lecture at the hall of the Franklin Institute that evening and these instruments were for the purpose of illustrating the lecture. The Edison carbon telephone was put in at the request of the secretary of the Institute, Mr. Knight, and also to illustrate what the telephone was capable of doing. The Franklin Institute was visited by our more prominent business and scientific men, and we were anxious to reach them.

Q. 10. Did you attend the lecture referred to in your last answer?

A. Yes; I attended the lecture and illustrated the telephone by diagrams; I refer to the Edison carbon transmitter.

Q. 11. Please state what was done at the lecture and exhibition just referred to, and what instruments were used there.

A. The instruments we used were connected with the office at Third and Chestnut street, and various parties talked through them. The transmitter was a rubber case, Edison's, and I think the receiver was what we call the snuff-box, but I will not be sure about the receiver.

Q. 12. Have you ever published or caused to be published any description of the Edison carbon telephone? If so, state when and the publication or publications containing such description.

A. There was an article published in the Journal of the Franklin Institute, written by myself, about the time of the lecture above referred to.

Q. 13. Will you produce a copy of the article referred to in your last answer?

A. I will at the next meeting.

Q. 14. Please explain the abbreviation "per. ex." in the entry under the date of June 8th, 1878, and state your recollection of the facts recited in such entry.

A. The abbreviation "per. ex." refers to the permanent exhibition at Fairmount Park. The telephones were placed there for comparison with the Bell telephone, which was also connected with the exhibition. The entry on June 8th refers to the adjustment of the carbon set of telephones which were in use at the permanent exhibition.

Q. 15. Can you state when the carbon telephones referred to in your last answer were first put up at the permanent exhibition?

A. They were put up on May 13th, 1878. I fix this date by my original entry in the memorandum-book referred to and quoted above.

Q. 16. State your recollection concerning the facts recited in the entry of May 24th, 1878, referring to the carbon telephone and resistance-coil put up for Louderback.

A. Mr. Louderback was the agent for the Western Electric Company, and had a store on Chestnut street below Seventh, and the carbon transmitter was placed there and connected with the office 107 South Third street for advertising purposes and for exhibition.

Q. 17. Look at the instrument now shown you and state, if you recognize it, what it is.

A. I recognize it as an Edison carbon transmitter.

(The instrument shown the witness is in evidence as Edison's Exhibit No. 3.)

Q. 18. When did you first have knowledge of an instrument like the one just shown you?

A. I recollect this instrument as among the first, and I consider this as among the earliest of the Edison transmitters.

Adjourned until 10 o'clock a. m., Wednesday, Aug. 6th, 1890.

PHILADELPHIA, *Aug. 6th*, 1890.

Met, pursuant to adjournment, at 10 o'clock a. m. Parties present as before.

Q. 19. Have you here present a copy of the article referred to in your 12th answer? If so, please produce it.

A. I have a copy of an article written by myself, and published in the Journal of the Franklin Institute in their issue of April, 1878, which describes the Edison carbon telephone as described at the lecture before referred to at the hall of the institute. This article was written in March preceding.

(It is admitted that the article and cut produced by this witness is a

copy of the article and cut contained in the Journal of the Franklin Institute for April, 1878, pp. 266 to 269 of vol. 105 of the Franklin Journal of the library of the U. S. Patent Office, heretofore referred to in the examination of witnesses in this case.)

Q. 20. What does the cut Fig. 1 in the article referred to in your last answer represent?

A. It represents an Edison carbon transmitter.

Q. 21. State whether or not the description of the said cut shown at Fig. 1 is a correct description of the Edison carbon telephone as it existed at any time prior to the issue of said journal.

A. It is, and is exactly similar to the transmitter before referred to as being in use between the Franklin Institute and the office of the Philadelphia Local Telegraph Co.

Q. 22. What further use, if any, was made of the Edison carbon telephone which you say was illustrated and talked through by various parties on the evening of March 20th, 1878, at the lecture at the Franklin Institute?

A. This instrument was allowed to remain connected at the Franklin Institute by request of Mr. Knight, the secretary, for several days, and was then removed to the reception-room of the Philadelphia Local Telegraph Co. at Broad and Chestnut street. This reception-room was connected with the office of the Local Telegraph Co. at Third and Chestnut streets, and was the general resort for business men and others. We had a young man in attendance at this place, and the telephone was placed there for the purpose of calling attention to its working and the comparison with the magneto-telephone, which was also on exhibition at the same place.

Q. 23. How did the telephone work when used as you have stated at the Franklin Institute and the other places mentioned in your last answer?

A. It worked very satisfactorily.

Q. 24. What was the result of the comparisons between the Edison carbon telephones and the Bell or magneto telephones referred to in your 14th and 22d answers—that is to say, how did the two instruments compare?

A. The Edison carbon telephone produces a much greater volume of sound and could be heard and understood distinctly, while the magneto-telephone could be heard with difficulty, owing to the induction on telephone lines. Through their proximity to telegraph lines the magneto-telephone was not a commercial success.

Q. 25. Did you yourself use the Edison carbon telephone placed in Mr. Louderback's office or store and connecting the same with the office 107 South Third street, as stated in your 16th answer?

A. I did frequently.

Q. 26. How did this telephone work?

A. Very well.

Q. 27. How do the telephones which you hold in your hand, or either of them, compare with the Edison carbon telephone placed in Mr. Louderback's store in May, 1878?

A. I recognize the instruments as among the first of the Edison carbon transmitters, and see but very little difference between them. The instruments are substantially the same, so far as I can see, as the one in Louderback's store.

(The telephones referred to in last answer are in evidence as Edison's Exhibit No. 1 and Edison Ex. No. 3.)

Q. 28. How did the Edison carbon telephones used by yourself and others, to your knowledge, in May and June, 1878, compare in effectiveness with telephones subsequently introduced into general public use?

A. The Edison carbon telephones in use in May and June, 1878, were in effect the equal of any carbon telephone in use to-day.

Direct examination closed.

X Q. 29. Did the Philadelphia Local Telegraph Company, of which you were superintendent, act as the agent of the Western Union Telegraph Company or the Gold and Stock Telegraph Company during the year 1878?

A. The Philadelphia Local Telegraph Company is a distinct and separate organization, but was agent for the American Speaking Telephone Company. The Philadelphia Local Telegraph Company owned its own stock and Morse instruments, but was the agent of the Western Union Telegraph Company in the delivery of its messages.

X Q. 30. From whom, if you know, were the various Edison carbon transmitters referred to in your testimony as having been used in the year 1878 procured, for what purpose were they obtained, and to whom did they belong?

A. As far as I understand it they were obtained direct from Thomas A. Edison, Menlo Park; they were procured for the use of the Philadelphia Local Telegraph Company and for introducing them as part of their business, but I do not know to whom they belonged.

X Q. 31. The Philadelphia Local Telegraph Company was at that time a competitor of the Bell Company in the telephone business, was it not?

A. It was.

X Q. 32. And it was seeking to obtain better instruments than those put out by the Bell Company, with a view to securing patronage; is not this the fact?

A. The magneto-telephone, as I stated before, was not at that time a commercial success, for the reason stated. The object, therefore, was to secure a louder speaking telephone.

X Q. 33. Was it not also sought to obtain an instrument that would overcome or obviate the defects occasioned by induction on the lines?

A. It was.

X Q. 34. Induction was the principal enemy of the magneto system, was it not?

A. I think it was.

X Q. 35. And is it not a fact that the various tests referred to in the entries quoted from your "log" or "memorandum-book" were made for the purpose of ascertaining the performance of the carbon telephone, as compared with the magneto, over long lines and lines subject to inductive interference?

A. Those tests were made to illustrate to the general public the fact that a carbon telephone would enable them to transact their business through it in a satisfactory manner.

X Q. 37. Please state who was present at the test referred to in the memorandum under date of Feb. 4, 1878.

A. I don't know who was present at our office positively, but I know Mr. Edison was at Menlo Park, and I think Mr. Adams, although I will not be sure about that.

X Q. 38. And was this a public exhibition?

A. No, sir; this was not.

X Q. 39. Did you take part in the test referred to in the entry of March 2d, 1878?

A. I was present at that test and took part in it.

X Q. 40. What instrument was used at that time in making the test?

A. The Edison carbon transmitter.

X Q. 41. I refer to the particular construction of the instrument employed.

A. I do not remember that.

X Q. 42. Did you take part in the test referred to in the entry of March 8th?

A. I was, and I took part in them.

X Q. 43. Which of the instruments failed?

A. It was not the instrument that failed; the failure refers to the getting of conversation via Pittsburg; I think they were asking a little too much of the instrument; that is my idea of it.

X Q. 44. Did you take part in the test referred to in the entry of March 10?

A. Yes, sir; I wrote that from my own hearing.

X Q. 45. What was the cause which rendered the results as stated in the last sentence of said entry?

A. I could not answer that; I do not know.

X Q. 46. Was that test regarded as satisfactory, and was it a public test?

A. It was not a public test, and to some it was satisfactory.

X Q. 47. Who was present at that test; who regarded it as satisfactory, and who as unsatisfactory?

A. My recollection is that Mr. Bentley was present and regarded it as satisfactory; I do not remember of any others.

X Q. 48. Do all of the entries in your "log" or "memorandum-book" relate to matters of which you had personal knowledge at the time of the entry?

A. They do.

X Q. 49. And were none of them based upon reports made to you?

A. The entries, so far as they relate to the telephone, were all made from my own personal knowledge.

X Q. 50. Whereabouts in the Franklin Institute was the Edison carbon transmitter located when used to illustrate the lecture referred to?

A. In the upper part of the hall; right near the stage.

X Q. 51. When were Edison carbon transmitters regularly introduced for the use of subscribers on the lines of or controlled by the Philadelphia Local Telegraph Company?

A. I do not know; they were introduced as rapidly as they could be got, but I have not the dates.

X Q. 52. What was the form of the carbon transmitter introduced by the Philadelphia Local Telegraph Company when first furnished to its subscribers?

A. You have the first form here. I refer to Edison's Exhibits No. 1 and No. 3.

X Q. 53. By whom, if you know, were the transmitters first put out by the Philadelphia Local Telegraph Company on subscribers' lines manufactured, and where?

A. I believe they were manufactured by Mr. Edison at Menlo Park.

X Q. 54. Are you confident that the instruments first put on subscribers' lines by the Philadelphia Local Telegraph Company were in all respects substantially the same as Edison's Exhibits No. 1 and No. 3?

A. Substantially the same; yes.

X Q. 55. How was the transmitter mounted for use on subscribers lines, as referred to? I mean were the transmitters secured to a support or merely attached to the wires and held in the hand when in use?

A. The first were attached to cords, as shown; later they were attached to an adjustable arm. I could not say whether any of this character were used on subscribers' lines or not. My impression is that they were, but I will not be positive. I mean by the words "this character" those attached to cords.

X Q. 56. At whose request or by whose instructions do you appear here as a witness in this case?

A. I was requested to appear by the request of the attorney for the Western Union Telegraph Company, Mr. C. L. Buckingham.

X Q. 57. Has Mr. W. W. Swan at any time consulted you with reference to the matters inquired of in this examination?

A. I have met Mr. Buckingham and Mr. Swan together, but I do not know of any particular consultation with regard to the matter.

X Q. 58. Have you heretofore executed an affidavit or given testimony concerning the early use of the Edison carbon transmitter? if so, when and at whose solicitation?

A. I did in 1881; at whose solicitation I do not now remember.

X Q. 59. Was this an affidavit or were you examined as a witness?

A. I was examined as a witness in the telephone interferences.

X Q. 60. Was the line connected with Mr. Louderback's office referred to in your testimony subject to unusual inductive disturbances?

A. It was not.

X Q. 61. Was the induction on that line more or less than the average on lines in the city?

A. I think that it was below the average.

Cross-examination closed.

R D. Q. 62. Are you willing to introduce the "memorandum-book" or "log" which you have referred to in your testimony in evidence?

A. As this is a private book I prefer to keep it, but will agree to produce it at the hearing or hearings in this case, if desired.

(The notary is requested to mark with his initials the several pages containing the entries referred to in said "memorandum-book" or "log" for purposes of identification.)

SAM. M. PLUSH.

Sworn and subscribed to before me this 6th day of August, 1890.

[SEAL.]

E. AUG. MILLER,

Notary Public.

Examination of witnesses resumed at 1 p. m., Aug. 6, 1890.

WILLIAM PITT PHELPS, a witness produced on the part of the Patent Office, having first been duly sworn, deposes and says:

Q. 1. Please state your name, age, residence, and occupation.

A. My name is William Pitt Phelps; age, 49 years; residence, Merchantville, N. J.; occupation, electrician.

Q. 2. What was your occupation in 1878?

A. I was chief inspector for the Philadelphia Local Telegraph Company.

Q. 3. Look at the instruments now shown you, marked Edison's Exhibits Nos. 1 and 3, and state what they are, if you know, and when and where you first saw similar instruments.

A. I recognize them both as carbon transmitters, No. 3 particularly, as it contains a device that was put on either by myself or a workman under me. I refer to a key attachment leaving the circuit open except when in use. I first saw those instruments very early in 1878; I could not tell you the date exactly. I refer particularly to No. 3. I saw them at the southeast corner of Third and Chestnut streets. I now refer particularly to No. 3. I also saw No. 1 or one like it at the same time.

Q. 4. Do you know De Lancey H. Louderback, and, if so, how long have you known him?

A. I do know him; I have known him since early in 1877.

Q. 5. Where was Mr. Louderback's place of business in 1878?

A. 628 Chestnut street.

Q. 6. State whether or not you had knowledge of the use of telephones in Mr. Louderback's office or store in the year 1878, and, if so, what kind of telephones were used there.

A. I know of telephones being used there, and used them there myself. They were the Edison carbon transmitter. I believe, but I am not positive, that there were magneto-telephones there before the Edison carbon telephone.

Q. 7. When did you first use an Edison carbon telephone at Mr. Louderback's office or store?

A. I cannot locate that exactly without referring to a record. It was in the spring, in the neighborhood of April, 1878.

Q. 8. For what purpose did you use the Edison carbon telephone at the time stated?

A. I used it to communicate with the office of the Philadelphia Local Telegraph Company, to give them and to get information in regard to general-news instruments, of which there was quite a number in the immediate neighborhood.

Q. 9. How did the Edison carbon transmitter work when used by you for the purposes stated in your last answer?

A. Perfectly.

Q. 10. Are there any circumstances by which you can fix the date when the Edison carbon transmitter was put up for use in Mr. Louderback's place of business?

A. Yes, sir. The fact is, we kept a daily record of all matters that transpired in relation to our business, especially changes and new works put in.

Q. 11. You have not quite answered my question; it calls for circumstances by which you are able to fix the date.

A. I do not think of any particular circumstance that would enable me to locate that time.

Q. 12. Do you remember whether or not Mr. Louderback had a spell of sickness in or during the year 1878?

(Question objected to as being an attempt, most manifest, to lead the witness and in itself leading.)

A. I do.

Q. 13. Were the Edison carbon telephones set up in Mr. Louderback's office prior to or subsequent to Mr. Louderback's sickness?

(Same objection as to the preceding question, and attention directed to the fact that these two questions are asked after the witness has stated that he does not remember any circumstance whereby he is enabled to fix the time.)

A. Prior to his sickness.

Q. 14. Which, if either, of the instruments before you more nearly resembles the Edison carbon telephone which was put up in his office prior to his sickness, as you have stated?

A. Edison's Exhibit No. 3 is substantially the same as the instrument that was in the office referred to.

Q. 15. State whether or not you had knowledge of any other uses of the Edison carbon telephone prior to the middle of July, 1878; if yea, state when and where such uses were made.

A. Yes; I had. One was placed in the office at the southeast corner of Broad and Chestnut street, connected with the office at Third and Chestnut street. I know also of one being placed in the Franklin Institute. Also one was placed in the permanent exhibition at Fairmount Park. They were all connected with the Third and Chestnut Street office. I am quite positive, although I would not like to state positively, that they were put in at Broad and Chestnut street in April, 1878.

Q. 16. For what purpose was the instrument used at the Franklin Institute?

A. It was to show the members of the Franklin Institute and all persons who chose to come there that we had a practical and successful speaking telephone.

Q. 17. What was the purpose of the Edison carbon telephone placed in the permanent exhibition at Fairmount Park?

A. For the same purpose, and also to compare with the Bell telephone without carbon transmitters.

Q. 18. What was the purpose of the one placed at the southeast corner of Broad and Chestnut street?

A. It was for the patrons of the Philadelphia Local Tel. Co.'s Exchange, which up to that time had been a Morse exchange; also to exhibit it as a means of communication.

Q. 19. Did you yourself use the telephones at the several places, or any of them, mentioned in your fifteenth answer?

A. I used them all except the one at the permanent-exhibition end of the line.

Q. 20. For what purpose did you use them?

A. At Louderback's office, 628 Chestnut street, and at Broad and Chestnut street, I used them for our own business, for communication.

Q. 21. What period of time is covered by the uses mentioned in your last answer?

A. I used them on and off in the neighborhood of three months.

Q. 22. How did the Edison carbon telephones work when you first had them on the lines mentioned in your previous answers?

A. Perfectly satisfactory.

Q. 23. Who, if you know, usually adjusted the instruments referred to for the purpose of keeping them in proper working order?

A. Myself and Dr. S. M. Plush.

Direct examination closed.

X Q. 24. About how frequently did the instruments require adjustment?

A. Some of them would not be touched in two or three weeks at all.

Some of them, through violence, would require adjusting every few days.

X Q. 25. Was any effort made to secure a more permanent adjustment—one that would not require frequent attention?

A. Only in placing the instrument where it would be less likely to receive knocks and blows.

X Q. 26. Did you personally take part in any experiments and tests made with the Edison carbon transmitter during the first half of the year 1878?

A. Yes, sir.

X Q. 27. Where were such experiments conducted, for what purpose, and with what result?

A. Those experiments were done at Third and Chestnut st. for the purpose of adjusting the carbon; the result was to save time.

X Q. 28. Were any of the carbon transmitters referred to in your testimony placed on the lines mentioned for your especial use and benefit?

A. No, sir.

X Q. 30. The uses made of the instruments referred to by you were performed because said instruments happened to be handy; is this not the fact?

A. I used them because they offered a better communication with the office than I had before that time had.

X Q. 31. Did you go out of your way to make use of them when other means of communication with the office were nearer at hand and more convenient of access?

A. Those conditions you have stated did not exist; they were just as handy as the Morse line which I previously used.

X Q. 32. You have stated in substance that when using the carbon transmitter yourself it operated satisfactorily or very well. Please explain how you at the transmitting end of the line determined this fact.

A. From the fact that I always got what I asked for.

X Q. 33. What were your duties as chief inspector of the Philadelphia Local Telegraph Company in the year 1878?

A. I had entire charge of the general-news circuit and the general supervision of the mechanical work in the shop; also assisted in working up the telephone system.

X Q. 34. What offices were those referred to in your fifteenth answer as located on Broad and Chestnut and Third and Chestnut?

A. Office of the Philadelphia Local Telegraph Co.

X Q. 35. You state in your answer to question eighteen that the purpose of the instrument placed at the southeast corner of Broad and Chestnut street was "for patrons of the Philadelphia Local Telegraph Company's exchange." Please explain what you mean by that answer.

A. It was for the use of such patrons.

X Q. 36. What was the nature of the use made by, or intended to be

made by, the patrons of the company, as referred to in your preceding answer?

A. To give them business communications with their firms.

X Q. 37. What period is covered by your last answer?

A. The period of time that phone remained in there.

X Q. 38. By whom are you at present employed?

A. By the Philadelphia Local Telegraph Company.

X Q. 39. At whose request, or by whose instructions, do you appear here as a witness in this case?

A. I was asked by Mr. Buckingham, of the Western Union Telegraph Company, to come here.

Cross examination closed.

R D. Q. 40. Please refer to your twenty-seventh cross-answer and explain more fully what you mean.

A. The object of that was to save taking that cover off and putting a piece of paper or some other thin substance between the diaphragm and the button.

R D. Q. 41. Had you previous to the introduction of the Edison carbon transmitter upon the lines mentioned in your testimony used magneto or other forms of telephones, and, if so, how did the results compare with the Edison carbon transmitter?

A. I had used them very little, if any, and never that I know of for business purposes. I am referring to the magneto-transmitter, which was very unsatisfactory.

R D. Q. 42. How did the Edison carbon transmitters used by you, as stated in your testimony during the first half of 1878, compare with telephones subsequently introduced into general and extensive public use?

A. They were generally as good as anything we have had since.

WM. PITT PHELPS.

Sworn and subscribed before me this 6th day of August, A. D. 1890.
[SEAL.]

E. AUG. MILLER,
Notary Public.

(At the request of counsel for Drawbaugh the further examination of witness, which was to have been had at New York to-morrow, is postponed until Saturday the 9th inst., 1890, at a time to be agreed upon hereafter. This postponement is requested to permit counsel for Drawbaugh to fill other engagements previously made.)

STATE OF PENNSYLVANIA,

City and County of Philadelphia, ss :

I, E. Aug. Miller, notary public within and for the county aforesaid and State of Pennsylvania, do hereby certify that the foregoing depositions of E. Ward Wilkins, Samuel M. Plush, and William Pitt Phelps were taken on behalf of the Patent Office, in pursuance of the notice hereto annexed, before me at 202 South Fifth st., in the city and county of Philadelphia, on the 5th and 6th days of August, 1890.

That each of said witnesses was by me duly sworn before the commencement of his testimony; that the testimony of each of said witnesses was written out by C. R. Morgan in my presence; that the opposing party, Daniel Drawbaugh, was present by his counsel, Joseph B. Church, during the taking of said testimony.

That said testimony was commenced at 11 o'clock a. m. on the 5th day of August, 1890, and was continued pursuant to adjournment on the 6th day of August, 1890, and completed on the same day; that I am not connected by blood or marriage with either of said parties, nor interested directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed my seal of office at Philadelphia this 6th day of August, 1890.

[SEAL.]

AUG. MILLER,
Notary Public.

CHICAGO, ILL., *July 15, 1890.*

In re application of Daniel Drawbaugh, filed April 3, 1884; ser. No. 126,527. Telephones. Public use proceeding.

Messrs. CHURCH & CHURCH,

Atty's for Drawbaugh, Washington, D. C. :

GENTLEMEN: You are hereby notified that on Monday, July 21st, 1890, at the office of Butterworth, Hall, Brown & Smith, No. 25 and 26 Honore Building, Chicago, Ill., at ten o'clock in the forenoon, I shall proceed to take the testimony of Enos M. Barton, Milo G. Kellogg, Charles E. Scribner, J. J. S. Wilson, C. H. Summers, L. B. Firman, Nectar Rousseau, Wm. A. Carroll, all of Chicago, Ill., and D. H. Louderbach, of Tacoma, Washington, as witnesses in behalf of the Patent Office.

The examination will continue from day to day until completed. You are invited to attend and cross-examine.

JULIAN C. DOWELL,
Counsel for Patent Office.

Service of the above notice acknowledged this 17 day of July, 1890.

CHURCH & CHURCH,
Atty's for Drawbaugh.

You are also hereby notified that at the close of the examination in Chicago the following witnesses may be examined in New York city and Philadelphia, Pa., viz:

Henry Bentley, Samuel M. Plush, W. Pitt Phelps, E. W. Wilkins, all of Philadelphia, and Wm. Riddle, of Atlantic City, N. J.

JULIAN C. DOWELL.

Service acknowledged this 17 day of July, 1890.

CHURCH & CHURCH,
Attorneys for Drawbaugh.

[Office of Butterworth, Hall & Brown, rooms 25 and 26 Honore building.]

CHICAGO, ILLINOIS., *July 19, 1890.*

Before the Commissioner of Patents in the matter of the application of Daniel Drawbaugh, filed April 3, 1884; ser. No. 126,527. Telephones. Public use proceedings.

Depositions of witnesses examined on behalf of the Patent Office, pursuant to the annexed notice, at the office of Butterworth, Hall & Brown, on Saturday, July 19, 1890, commencing at 11 o'clock.

Present: Julian C. Dowell, on behalf of the Patent Office; Joseph B. Church, on behalf of Daniel Drawbaugh.

It is consented by counsel present that the testimony may be written out by Ida Frances Parsons, the witnesses first being duly sworn by M. B. Koehler, a notary public of Chicago, Cook County, Illinois.

DE LANCEY H. LOUDERBACK, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Mr. Dowell, as follows:

Q. 1. Please state your name, age, residence, and occupation.

A. De Lancey H. Louderback; 41; Tacoma, Washington; looking after my own personal investments.

Q. 2. What was your occupation in 1878?

A. Agent for Western Electric Manufacturing Company, Chicago, and Edison electric pen, with headquarters 628 Chestnut st., Philadelphia.

Q. 3. Were you a salaried employé of those companies or did you work on commission?

A. I worked on commission.

Q. 4. Did you, in the spring or early summer of 1878, have occasion to use any kind of telephone? if so, what kind did you use?

A. Yes, sir; daily. I used the Phelps duplex magneto-telephone and the Edison carbon transmitter, and also the Phelps crown telephone.

Q. 5. When did you first have knowledge of the Edison carbon transmitter?

A. In the latter part of January or the fore part of the month of February, 1878.

Q. 6. Please state the circumstances under which you first obtained knowledge of the Edison carbon transmitter.

A. In the office of Henry Bentley, president of the Philadelphia Local Telegraph Company, corner Third and Chestnut streets, Philadelphia. I had had a line connected from Mr. Bentley's office to my own, I think, in the month of December, 1877, on which we used Bell hand telephones, and having business relations with him I was frequently in his office, where he was testing telephones of all kinds, and during these visits I was present at a number of tests which he made with the Edison carbon telephone of the first transmitters ever sent out for public use, as far as my knowledge goes.

Q. 7. What were your relations to Mr. Bentley ?

A. I used to furnish him a great deal of electrical supplies, and also worked up private lines for him on commission.

Q. 8. Can you describe the Edison carbon transmitter as it existed to your knowledge during the spring or early summer of 1878 ?

A. My first recollection of the instrument used by me was the Edison carbon instrument with a long handle, something like the Bell hand telephone, having a rubber handle and binding attachment for conducting-wires. The next instrument was a small iron instrument with rubber mouth-piece, something similar to what is used at the present day. The internal arrangement of the instrument in a rubber case with long handle is not fresh enough in my mind to describe it fully, but in a general way I can say that it had an adjusting apparatus at the bottom, diaphragm and carbon arrangement at the other end, and my recollection is that there was a piece of glass and other substances which were used with the instrument. I had no occasion to examine this instrument particularly other than noticing it when Mr. Bentley, Mr. Plush, and Mr. Phelps would be adjusting it. The second instrument referred to in the iron case I do not remember ever having seen the interior arrangement of, although I talked through it a number of times. The third instrument which I used was one of two instruments and induction-coils which Mr. Edison sent over to Henry Bentley, Philadelphia, as two of his best and improved carbon transmitters. This instrument had a rubber mouth-piece connected with a metal frame and a cup-shaped base with a flat bottom, in which was contained a diaphragm, the carbon button, a piece of metal insulated, and an adjusting device on the base of the instrument, with binding-posts on the outside of the instrument for connecting the flexible wires.

Q. 9. What was the purpose of the adjusting device in the last-mentioned instrument ?

A. For, as I understood it, varying the resistance of the carbon button on the diaphragm.

Q. 10. When and where did you first make use of an instrument of the character referred to in your answer No. 8 as the "third instrument ?"

A. Sometime in the month of May, 1878, in the office of Henry Bentley, and subsequently in my own office, 628 Chestnut street, where Mr. Bentley placed it for public exhibition and use for our own business between the two offices, on a line running from my office to the office of Henry Bentley, Third and Chestnut streets. •

Q. 12. When and how was the line running from your office to the office of Mr. Bentley equipped with the carbon telephone and apparatus to which you have referred ?

A. I cannot give the date of this equipment, but can say it must have been sometime in the month of May or June, as Mr. Bentley placed the instrument in my office very soon after he received it from Mr. Edi-

son, as he was desirous of having the public use it, to show how much superior it was to the magneto telephones we had been using, and as I had made arrangements to always have some one in my office to answer the telephone calls and exhibit the same when parties came to his office to investigate with regard to using telephones on their private lines. I am certain there was very little time elapsed between the receipt of the instruments and their being set up in my office. The equipment was the carbon telephone referred to as the third instrument in my answer No. 8; one induction-coil, with a plug for disconnecting the battery; one Grenet cell of battery, one three-point switch, a magneto call-bell, and two duplex Phelps telephones with flexible cord attachment.

Q. 13. Please look at the instruments now shown you and state, if you recognize them, what they are.

A. The instrument shown with the key attachment is similar to the second instrument referred to in my answer to question No. 8 as having been used by me in Mr. Bentley's office in tests made there.

(The instrument shown the witness and referred to by him in the last answer is the instrument heretofore offered in evidence and marked Edison's Exhibit No. 3.)

The instrument now in my hand is, as far as I can see, the same as the one referred to as the third instrument in answer to question No. 8, as having been set up in my office.

(The instrument last referred to by the witness is already in evidence as Edison's Exhibit No. 1.)

Q. 14. How did the Edison carbon transmitter referred to in your answers as having been used on the line connecting your office with the office of Mr. Bentley operate?

A. Very successfully; much superior to the magneto instruments formerly used.

Q. 15. How did this telephone, as used by you at that date, May or June, 1878, compare in effectiveness with telephones subsequently in general and extensive public use?

A. It was equal in effectiveness to any telephone I have ever used from that time to this, and, in fact, I think, on account of our being more particular in regard to our adjustment of the instrument and the battery used, it excelled any instruments of the present day in general use.

Q. 16. Did you use the instrument freely in conversing between your office and that of Mr. Bentley?

(Objected to as leading.)

A. Yes, many times daily, as Mr. Bentley's office constantly had visitors coming in to try the telephones, as well as my own office, necessitating their constant use, as well as in the transaction of our own business, as he generally ordered his electrical supplies by telephone, following this up with a written order.

Q. 17. Previous to the use of the Edison carbon transmitter on the line connecting the offices of yourself and Mr. Bentley, as you have stated, was that line equipped with magneto-telephones?

A. Yes, sir; the Phelps duplex, and previous to that with Bell hand telephone.

Q. 18. Are there any circumstances, or have you any memoranda, by which you can fix the dates testified to in your previous answers, particularly in respect to the date of the instrument used by you in your own office?

A. Yes, sir. In regard to the placing of the instrument in my office I approximate the date by the date of the death of William Orton, president of the Western Union Telegraph Company, as I received the notice of his death over the telephone and announced the same to Henry Bentley, who stopped in my office on his way down town, and the sudden announcement of Mr. Orton's death, who was a warm personal friend of Mr. Bentley, gave him such a shock that it impressed me very strongly, and it was subsequent to Mr. Orton's death that I had these instruments placed in my office. Mr. Orton's death occurred April 22, 1878. A further reason for my statement of dates was the fact that in July, 1878, some day after the 4th, and between it and the 9th of July, I had a severe attack of spinal meningitis and was forced to go away and did not return until somewhere near August 26th, and I had this carbon telephone in my office several weeks before I was taken sick. I fix the date of my illness by two facts: one, that I was going on an excursion to Cape May on the 4th of July before I was taken sick, and on account of the overcrowded condition of the boat my wife dissuaded me from going; and the further fact that in the correspondence between my office in Philadelphia and the Western Electric office in Chicago I find a letter dated July 9th, 1878, addressed to E. M. Barton, secretary, from my wife, announcing that I had been taken with a congestive chill Friday evening previous at half past eight, and afterwards had an attack of spinal meningitis; and a further letter dated August 26th, 1878, addressed to E. M. Barton, secretary, announcing my return home the previous Saturday evening, and signed by myself. I also find a letter dated July 1st, 1878, in my own handwriting, addressed to Mr. Barton, showing that I was well and attending to business at that time. I have the letters referred to with me, and herewith submit them for inspection.

Q. 19. How was the telephone located in your office with regard to its accessibility to strangers or others coming into your office?

A. It was located in the rear end of the store, back of the safe, where I had a large open place capable of accommodating a large number of people, and on several occasions, there being more people than I had magneto-telephones to allow them all to listen, they were all enabled to hear the words transmitted by the carbon telephone in Mr. Bentley's office by my simply holding up the Phelps duplex instruments without holding them to their ears. I mention this, as it has occurred to me since I stated that the telephone we then had worked better than those I have since used. The premises at 628 Chestnut street was very prominent in those

days, it being a large double store, and we having a large display in one of the front windows of all sorts of electrical apparatus, as well as caricatures made with the Edison electric pen and placed on exhibition in the front window, which attracted a great many people in the store, and made it a kind of headquarters for everything electrical; and on the other side of the store was the optical department of E. Borhek, which also brought in a great many people, we occupying the store in common.

Q. 20. Did others than yourself use the Edison carbon telephone set up in your office, as you have stated, in May or June, 1878?

A. Yes, sir; my wife used it, and many others who came in to try it with Mr. Bentley's office; also the clerks in the store.

Direct examination closed.

Recess until 2 o'clock.

Cross-examination by J. B. CHURCH:

Q. 21. What was the character of your agency for the Western Electric Manufacturing Company? Were you the general agent of the company?

A. Yes, sir; I was the general agent for a given eastern district. All letters for the purchase of supplies in that district were referred to me, except matters appertaining to purchases and manufacturing apparatus for the Western Union Telegraph Company, New York City. I advertised myself on my letter-heads as "agent," giving the company name in full on the heading.

Q. 22. When did that agency begin and terminate?

A. It began in the fall of 1877, and terminated about June, 1879.

Q. 23. During the year 1878 did the Western Electric Company manufacture and offer for sale telephones of any kind?

A. Not through my agency. What they may have done in Chicago for the Gold and Stock Telegraph Company or the American Speaking Telephone and Telegraph Company, who at that time ran the telephone business in the Western Union Company's interest, I do not know, as I was not posted on their Chicago operations at that time.

Q. 24. Was Mr. Henry Bentley, to whom you have referred in your testimony, connected or interested with you in business during the year 1878?

A. No, sir; only to the extent of purchasing quite a large amount of material from my agency.

Q. 24. What was the character of the business carried on by the Philadelphia Local Telegraph Company, of which Mr. Bentley was president, in the year 1878?

A. It was the collection and delivery of telegrams to and from patrons of the Western Union Telegraph Company throughout the city of Philadelphia, the sending out of all sorts of market quotations and general news for the Gold and Stock Telegraph Company, and he also had quite an extensive business that we used to call the private-line department, equipped with telegraph instruments, and also with a few printing in-

struments, for the use of private firms between their offices, factories, etc. These were gradually supplanted in a great measure by telephones.

Q. 25. For what purpose, if you know, was Mr. Bentley testing telephones of all kinds, as referred to in your answer to the sixth question?

A. Primarily to protect himself from the encroachments of the Bell Telephone Company's agent, who was trying to secure Bentley's private-line customers for himself; secondly, because he was a warm friend of Mr. Orton, as already stated, and the latter had great faith in Mr. Bentley's judgment of the practical utility of matters pertaining to electrical appliances, and from the further fact that at that time there was not a very good feeling existing between Mr. Edison and the Western Union officials, and Mr. Edison was anxious to have Mr. Bentley exhibit their capacity and test them, so that an unbiased opinion would reach Mr. Orton of their efficacy.

Q. 26. Upon about how many occasions did you witness or assist in the testing of carbon transmitters in connection with Mr. Bentley, and what number of instruments were so experimented with in the month of June, 1878, or prior thereto?

A. I was present at several tests of the long-handle telephone that was made in his office between various rooms, but could not state specifically the number of times. I was also present at an exhibition of, I think, this same instrument on a test between Philadelphia and Harrisburg, where two lines were connected together at Harrisburg, making both ends terminate in different rooms in Mr. Bentley's office. My recollection of this is made strong by the fact that Mr. Plush brought up the question as to whether it was possible that the voice could have jumped across the wires by induction on account of the two wires traveling on the same poles clear through to Harrisburg, and he therefore had Harrisburg connect up the other end of the line with another line around, I think, by the way of York, Pa., bringing the wire back to Bentley's office by an entirely different route from the outgoing wire. We got the words, but not very distinctly, those telephones not having as good articulation as the later ones. The next test which is brought to my mind distinctly was one between Philadelphia and New York City, which was carried on between Mr. Bentley's office and the office of the Gold and Stock Telegraph Company, New York City, upon which occasion I conversed over the line personally, and it was found that my voice carried better than any of the others at the Philadelphia end of the line. The balance of the tests were not brought to my mind enough to describe the number or the facts in the case, but they were very frequent.

Q. 27. Were these tests made for the purpose of ascertaining the value and effectiveness of the Edison instrument for use in competition with the Bell telephone?

A. That is my impression also, I think, for the reason that the

Western Union people were very anxious to see how far it might affect their telegraph business, although I was not in the confidence of either party enough to say this as a fact, it being my impression at the time from general information.

Q. 28. Were the results of each succeeding use or test of Edison's instruments generally compared as to efficiency with previous tests made with the same or similar instruments?

A. Yes, sir. They continued to get better until the third instrument referred to in my evidence was brought out, when I do not think subsequent instruments improved any over that one, although some people thought his carbon telephone using the hard and soft carbon was an improvement by reason of the hard carbon having more points of contact by being impacted in the soft carbon; but, as I have already stated, I have never seen anything up to the present time, except what is known as the long-distance telephone, that excels the working of his carbon telephone referred to as the third instrument in question 8. The hard and soft carbon telephone referred to did not come out until long after the third instrument.

Q. 29. Who usually made the adjustment on the instrument which you say was in your store in May or June, 1878?

A. Mr. Phelps of Mr. Bentley's office. We always had to have some one from their office do it, as we had no arrangement for working the adjustment apparatus, and were instructed not to interfere with the adjustment, not having a key to fit it.

Q. 30. During the time you say these carbon instruments were in use on the line between your store and Mr. Bentley's office, did you at the same time have the magneto instruments and employ them in transmitting messages?

A. We had the Phelps duplex magneto instruments, but did not use them for transmitting, but simply as receivers, as we always preferred to use the Edison carbon on account of its talking so much louder and better enunciation.

Q. 31. Did Mr. Bentley give or sell you that instrument in use in your store?

A. No, sir; simply placed it there for joint use, as already explained.

Q. 32. How long did that first Edison carbon transmitter remain in your store, and when was it removed?

A. I have no means of fixing the date of removal of that particular instrument, but from the time it was put in until the time I closed the agency, on or about June, 1879, my office was never without an Edison carbon telephone. It was, however, changed by putting in one of the Edison telephones, called the combination set, which included a magneto-telephone, call-bell, an Edison carbon telephone on a movable arm, and arranged so that the telephone itself could be moved backwards and forwards for the purpose of suiting a person's height, as well as to adjust the carbon transmitter.

Q. 33. When was that combination set put in ?

A. That I am unable to answer, but very soon after they first came out, as Mr. Bentley secured a pair and brought them over as soon as finished.

Q. 34. Will you please name all parties employed in your office, 628 Chestnut street, during the months of May, June, and July, 1878 ?

A. E. Borhek, John Borhek, Charles Flaig, an office boy by the name of George, and another gentleman in my employ by the name of Earle—I think his full name was Edward I. Earle—and, during my sickness in the month of July, Doctor Cleland, who had charge of the Western Electric Manufacturing Company's medical apparatus in New York City, was sent over by the company to take my place. All those parties mentioned before George, the office boy, were engaged in the optical department, George doing work for both concerns when needed.

Q. 35. Which of these parties was designated to answer telephone calls, as stated in your 12th answer ?

A. When present I always answered calls myself; when absent, Mr. Earle would answer, and on occasions Mr. Flaig would sometimes do it, although very rarely, as they were not supposed to attend to anything of that kind on my side of the store. Dr. Cleland answered the telephone and attended to it while he was there in my absence.

Q. 36. Will you please give the names of all those persons whom you can recollect having visited your store in May, June, or July, 1878, and testing the operation of the carbon transmitter ?

A. Homer A. Clute, superintendent Lehigh Valley Telegraph Company, Mauch Chunk, Pa.; William Sargent, who was then with Mr. Cornish, agent of the Bell Telephone Company; William Riddle, canvassing agent for Henry Bentley; Mr. Phelps, employed in Mr. Bentley's office, the two latter often using it to notify the office at Third and Chestnut streets what they were doing, and where they were going to be during the day; Professor Barker of the Pennsylvania University; Dr. S. S. White. These are all that I now call to mind.

Q. 37. When and by whom were you first approached on the subject of this controversy and requested to testify therein ?

A. I received a telegram at Tacoma, Washington, about June 19th of this year, from Norman Williams, Chicago, asking me if I could meet W. W. Swan in Chicago the following week, to which I replied I could, and left home on the 25th for Chicago, where I met Mr. Swan on the following Tuesday.

Q. 38. You have stated in substance that one of Mr. Bentley's objects in putting in the Edison transmitter was for the purpose of directly or indirectly influencing the officers of the Western Union or the Gold and Stock in Mr. Edison's favor. Am I correct or not in my understanding of your testimony ?

A. I think you do not understand my answer as I intended. The object of his test was that the Western Union or Gold and Stock officials

should have an unbiased opinion of the merits of the Edison instrument, as Mr. Bentley was known to be an impartial and upright man, and would give anything a fair report brought to his notice.

Q. 39. In what way did you understand that the placing of the instrument in your office would affect Mr. Bentley's judgment as to its value, and cause him to report favorably or otherwise as to the merits of the instrument?

A. Because it gave him daily opportunity to test it for himself, and thus form his conclusions, the instrument at his end of the line being in his own private office.

Q. 40. Do you know whether or not Mr. Bentley made any report concerning the value or utility of these instruments based upon the experiments over the line connected to your office?

A. Only from what he told me himself, namely, that he had reported favorably on them in conversation with Mr. Walker, this being Edison's wish that he should report direct to Mr. Orton or the higher officials instead of through the subordinate officials of the Gold and Stock and Western Union Telegraph Company.

Cross-examination closed.

DE LANCEY H. LOUDERBACK.

Subscribed and sworn to before me this 19th day of July, A. D. 1890.

[SEAL.]

MINNIE B. KOEHLER,
Notary Public.

STATE OF ILLINOIS,

County of Cook, ss:

I, Minnie B. Koehler, a notary public in and for county of Cook, State of Illinois, do hereby certify that the foregoing deposition of De Lancey H. Louderback was taken on behalf of the Patent Office, in pursuance of the notice hereto annexed, before me at the office of Butterworth, Hall & Brown, Honore Building, room 25, in the city of Chicago, in said county, on the 19th day of July, 1890.

That said witness was duly sworn by me before the commencement of his testimony; that the testimony of said witness was written out by Ida Frances Parsons in my presence; that the opposing party was present by his attorney, Joseph B. Church, during the taking of said testimony, and that said testimony was taken at 204 Dearborn street, in the office of Butterworth, Hall & Brown aforesaid, and was commenced at 11 o'clock a. m. on the 19th day of July, 1890, and was concluded on the same day.

That I am not connected by blood or marriage with either of said parties, nor interested either directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed my seal of office at Chicago, in said county, this 24th day of July, A. D. 1890.

[SEAL.]

MINNIE B. KOEHLER,
Notary Public, Chicago, Ill.

CHICAGO, ILL., *July 15, 1890.*

In re application of Daniel Drawbaugh, filed Apr. 3, 1884; ser. No. 126,527. Telephones. Public use proceeding.

Messrs. CHURCH & CHURCH,
Att'ys for Drawbaugh, Washington, D. C.:

GENTLEMEN: You are hereby notified that on Monday, July 21st, 1890, at the office of Butterworth, Hall, Brown & Smith, No. 25 and 26 Honore Building, Chicago, Ill., at 10 o'clock in the forenoon, I shall proceed to take the testimony of Enos M. Barton, Milo G. Kellogg, Charles E. Scribner, J. J. S. Wilson, C. H. Summers, L. B. Firman, Nectar Rousseau, Wm. A. Carroll, all of Chicago, Ill., and D. H. Loud-erback, of Tacoma, Washington, as witnesses in behalf of the Patent Office.

The examination will continue from day to day until completed. You are invited to attend and cross-examine.

JULIAN C. DOWELL,
Counsel for Patent Office.

Service of the above notice acknowledged this 17th day of July, 1890.

CHURCH & CHURCH,
Att'ys for Drawbaugh.

You are also hereby notified that at the close of the examination in Chicago the following witnesses may be examined in New York City, and Philadelphia, Pa., viz:

Henry Bentley, Samuel M. Plush, W. Pitt Phelps, E. W. Wilkins, all of Philadelphia, and Wm. Riddle, of Atlantic City, N. J.

JULIAN C. DOWELL.

Service acknowledged this 17 day of July, 1890.

CHURCH & CHURCH,
Attorneys for Drawbaugh.

MONDAY, *July 21st, 1890, 11.30 a. m.*

Present: Julian C. Dowell, on behalf of the Patent Office; Joseph B. Church, on behalf of Daniel Drawbaugh.

ELISHA W. BENNETT, a witness on behalf of the Patent Office, being first duly sworn, testified as follows:

Mr. DOWELL:

Q. 1. Please state your age, name, residence, and occupation.

A. Forty-one years; Elisha W. Bennett; Washington Heights, Cook County, Illinois; assistant manager Western Electric Company of Chicago.

Q. 2. What was your occupation in 1878?

A. Shipping-clerk for the Western Electric Mnf. Company.

Q. 3. State whether or not the Western Electric Mnfg. Company in 1878 manufactured telephones of any kind, and, if so, what kind.

A. Among others we manufactured what was known as the Edison carbon telephone.

Q. 4. State whether or not you have any records kept by you at that time showing shipments of the Edison carbon telephone prior to August 1st, 1878, and to whom such instruments were shipped. If so, please produce the records.

A. I have such records and now produce them. The first record I have is book known as G. & S. book No. 2, G. & S. meaning Gold and Stock Telegraph Company, being letter-press book covering the shipments of telephones of different kinds from April 12, 1878, to January 22, 1879. I also have a book in which I kept a record of all instruments shipped by their numbers. Both of these books are records belonging to the Western Electric Manufacturing Company, used in keeping track of the instruments shipped by them.

Q. 5. Please state what records you find in the books you have just produced of shipments of Edison carbon telephones by the Western Electric Manufacturing Company prior to August 1st, 1878, and to whom such shipments were made.

(Question objected to, as well as all evidence which may be given concerning the contents of these books, unless the same are introduced in evidence.)

A. On page 101, G. & S. book 2, I find under date of June 20th, 1878, that carbon telephone No. 5004 was sent to L. B. Firman of the American District Telegraph Company, Chicago. On page 106 of the same book, under date of June 27, 1878, I find that I sent one carbon telephone, No. 5010, to C. H. Summers, electrician of the Western Union Telegraph Company. On page 116 of the same book, under date of July 3, 1878, I find that I sent one carbon telephone, No. 5012, to J. J. S. Wilson, superintendent of the Western Union Telegraph Company. On page 107 of the same book, under date of June 29th, I find that I sent two Edison carbon telephones, Nos. 5004 and 5006, to J. J. S. Wilson, superintendent of the Western Union Telegraph Company. On turning to my book of records of instruments shipped by their numbers I find that carbon telephones No. 5004 and 5006 were charged to J. J. S. Wilson June 29, 1878, reference being made to page 107 of G. & S. book 2. Telephone No. 5010, charged to C. H. Summers, June 27, 1878, reference being to page 106 of G. & S. book 2. Telephone 5012 was charged to J. J. S. Wilson July 3d, reference being made to page 116 G. & S. book 2. I also find record of telephone 5008, charged to J. J. S. Wilson, without reference to Gold & Stock book 2. I also notice that I have run a blue pencil through the charge against Mr. Wilson for No. 5006, and this must have been done on account of substituting No. 5008 for 5006.

(In view of the above objection of counsel for Drawbaugh, counsel for the Office states that the records produced by this witness are not

under the control of counsel for the Office; but fac-similes of the several pages of the G. & S. book No. 2, and the first nine entries on page 120 of the "book of records" referred to by the witness in making his last answer, are offered in evidence and marked "Bennett's Exhibit, G. & S. Book No. 2.")

Q. 6. Please explain the several entries referred to in making your last answer, and state when and by whom they were made and what the several pencil-marks thereon indicate.

A. The originals, of which these are press copies, were made by me in every case, and on the dates shown by the letter-press copies. The large blue letter R in pencil shows that I received a receipt for the instruments from the parties to whom they were shipped. On page 101 I find that I marked across the entry charging the carbon telephone 5004, with blue pencil, the word "Returned," showing that it was returned within a very short time—in fact, in such short time it was not entered in my book of records by numbers at all. The circle made with green pencil and the straight line made with blue pencil, shown on the same page, merely indicate that some system of checking had been carried out. Page 106, the letter R indicates that I received Mr. Summers' receipt for the carbon telephone No. 5010, and I now produce the receipt as received from him.

(The receipt produced by the witness is offered in evidence as "Bennett's Exhibit, Summers' Receipt.")

On the same page I find in blue pencil writing "Ret'd 7-3-'78," indicating that this instrument was returned to our shop July 3d, 1878. The letter R, made with blue pencil on page 107, indicates that I received J. J. S. Wilson's receipt for carbon telephones 5004 and 5006. The circle in green pencil indicates the same as that on page 101. On page 116 the letter R indicates that I received a receipt from J. J. S. Wilson. I find on examining the copy that I requested him to return No. 5010 by a boy in exchange for 5012 sent him. In blue pencil I find that I have written 5010 in, indicating that that number was brought back by the boy. This explanation refers to G. and S. book No. 2. Referring to book of records by numbers, on page 120, under the head of carbon telephones, I find a column entry, No. 5004, charged to J. J. S. Wilson June 29, 1878, was returned to our shop March 27, 1879, as indicated by the red-ink entry. In regard to 5006, which was originally charged to J. J. S. Wilson, but afterwards crossed off by blue pencil, I have no further record, but would say that it is in the hands of our company to-day. No. 5008, charged to J. J. S. Wilson, was returned to our store March 27, 1879. No. 5010, charged to Mr. Summers, is shown by the red-ink entry to have been returned to our store about July 1, 1878. No. 5012, charged to Mr. Wilson July 3, 1878, still stands charged to him.

Q. 7. State if you recognize the writing on the receipt produced by you and offered in evidence as Bennett's exhibit, Summers' receipt; if so, whose it is.

A. The writing in the body of the receipt was that of a telegraph operator who at that time was occupied in our office, by the name of Mrs. Beale. The signature, to the best of my knowledge and belief, is that of C. H. Summers.

Q. 8. Please explain, if you can, the signification of the name "Scribner," inclosed in brackets on this receipt, and the abbreviation "C. H. Ofs."

A. The name "Scribner" indicates that carbon telephone No. 5010 was taken from our shop to Mr. Summers' office by Mr. Scribner. The letters "C. H. Ofs." is the telegraphic address of Mr. Summers' office, and means Chicago Office Western Union Telegraph Company.

Q. 9. State if you know the number at which the Western Electric Manufacturing Company began to number the Edison carbon telephones manufactured by that company.

A. No. 5002.

Q. 10. Did you personally use the Edison carbon telephone in the early days of that instrument?

A. I did.

Q. 11. When and where, to the best of your recollection, did you so use it, and for what purpose?

A. In talking back and forth between the office of the Western Electric Manufacturing Company and the Western Union Telegraph Company, Chicago office, in the early part of the summer of 1878, for the transaction of business between the two offices.

Recess until two o'clock.

Q. 12. Previous to having used the Edison carbon telephone in the early part of the summer of 1878, as you have stated in your 11th answer, had you used other telephones? If so, how did the Edison carbon telephone compare in effectiveness with the telephones you had previously used?

A. I had made use of other telephones. The Edison carbon telephone was much more distinct than any I had used previous to that time.

Q. 13. Look at the instrument now shown you and state, if you recognize it, what it is.

A. It is an Edison carbon telephone, and to the best of my knowledge and belief is one of the original telephones shipped by the Western Electric Manufacturing Company previous to August 1st, 1878.

Q. 14. In making your answer to the 5th interrogatory I notice that telephone No. 5010 appears to have been charged to C. H. Summers on June 27th, and that on July 3d you requested the return of the same telephone from J. J. S. Wilson; please explain this.

A. Mr. Wilson was the superintendent or division superintendent of the Western Union Telegraph Company at that time, and had to account to the Gold and Stock Telegraph Company for all telephones issued in his district, and would therefore have been held responsible for the telephone sent to Mr. Summers; furthermore, Mr. Wilson and Mr.

Summers occupied the same or adjoining offices in the Western Union building.

(By consent the examination of this witness is suspended for the purpose of placing another witness upon the stand.)

CHICAGO, *July 24th*, 1890, 4 p. m.

EXAMINATION OF MR. BENNETT—Resumed.

Q. 15. Have you the books heretofore referred to in your testimony?

A. I have.

Q. 16. If so, state whether or not you are at liberty to allow them to be used in evidence.

A. The books are the property of the Western Electric Company and are in my care, and I have not been authorized to allow them to go on in evidence; but I have no objection to allowing counsel full opportunity to examine them.

Q. 17. State your practice in the summer of 1878 in regard to sending out receipts like that produced by you and offered in evidence as "Bennett's Exhibit, Summers' Receipt."

A. The receipts were made out in duplicate, as the letter-press copy-book will show, and the party to whom the receipts and instruments were sent would retain one or else sign it and send it to the division superintendent of the Gold and Stock Telegraph Company, and would sign the other and return it to the Western Electric Manufacturing Company.

ELISHA W. BENNETT.

Subscribed and sworn to before me this 24th day of July, A. D. 1890.

[SEAL.]

WILLIAM J. STAPLETON,

Notary Public.

Cross-examination waived.

W. J. S., *Con'r.*

CHARLES H. SUMMERS, a witness on behalf of the Patent Office, being first duly sworn, testified as follows:

Mr. DOWELL:

Q. 1. Please state your name, age, residence, and occupation.

A. Charles H. Summers; 53; occupation, electrician for the central division Western Union Telegraph Company; residence, Fort Sheridan, Illinois; city office, 150 Washington street, Chicago.

Q. 2. What was your occupation in 1877 and 1878?

A. Electrician, same position as now, same company.

Q. 3. Had you in 1877 and 1878 a telegraph line connecting your office with other points in the city? and if so, state with what other office your office was so connected.

A. We had a line connecting my office with the Western Electric Company, also the supply department of the Western Union Telegraph Company, located at corner of State and Sixteenth streets.

Q. 4. For what purpose did you use these telegraph lines?

A. For the transaction of business with the Western Union Telegraph Company.

Q. 5. Were telephones ever erected for use on either of these lines? If so, state when and what kind of telephones were first used thereon.

A. I cannot give you the exact date at which telephones were introduced upon either of these lines; I think, however, it was in the beginning of 1878. They were the ordinary hand telephones, called the Bell telephone, and were the only kind of telephones used in Chicago at that time, to my knowledge.

Q. 6. For what purpose did you use them?

A. On the line with the supply department we used them for ordering machinery, directing the shipment of material, and all other business of that nature which we were constantly transacting with them. I will say that these telephones were not used exclusively by myself, but by the superintendent and his clerks, between whose office and the supply department a great deal of business was transacted.

Q. 7. Subsequently to the use of the Bell telephone, as you have stated, did you use other telephones? If so, please state when, where, and what kind of telephones you used.

A. We used upon these circuits a telephone introduced by Mr. Gray, which, I think, was called the electro-magnetic telephone; also a telephone introduced by Mr. Gray called a bipolar telephone. We used, I think, for a short time a telephone brought out by Mr. Phelps of New York. I do not know what it was called. I don't remember whether any others were used or not. (The question having been re-read to the witness, he continues as follows:) I should have added that we used a telephone known as the Edison carbon telephone.

Q. 8. When and under what circumstances did you first have knowledge of the Edison carbon telephone?

A. In the spring of 1878 I met Mr. Bliss, who stated that he had recently been to New York and had seen a new telephone brought out by Mr. Edison, which as a transmitter was far better than anything before introduced. He gave me a glowing description of it; the details I do not now remember, but I became exceedingly anxious to try it. My duties called me to the shops of the Western Electric Company, where I asked repeatedly if they had received any of these telephones or expected to, and I exacted a promise from Mr. Barton that should he receive one he would let me know at once and permit me to try it.

Q. 9. Were you supplied with an Edison carbon telephone in compliance with your request, as stated in your previous answer?

A. Mr. Barton notified me when he had received a couple of telephones, which he stated were sent to him by Mr. Edison, and I was given an opportunity to try it. This, he stated, was one of the new carbon telephones.

Q. 10. When was this?

A. This was in 1878; I believe that it was in the month of June; it might have been a little earlier.

Q. 11. Did you use this telephone? If so, with what results?

A. I tried the telephone on a line, probably two or three lines, I do not remember now, but I tested it on the line between my office and the Western Electric Manufacturing Company. I did not retain this telephone but a very short time. Mr. Barton told me that he had in the course of manufacture or was about to manufacture some of these telephones, and I should have one of these on the line to the Western Electric, or at least in my office where I could use it. I thought it the best telephone that had ever been introduced. In conversation I could hear the conversation or the talk from the distant end of the line very clear and distinct, and the induction which so seriously interfered with the ordinary Bell hand telephone was not near so noticeable in this case, nor did it cause any particular interruption of conversation.

Q. 12. Did you subsequently receive one of the Edison carbon telephones manufactured by the Western Electric Manufacturing Company?

A. Yes, sir; I received one which they stated they had manufactured.

Q. 13. When was this?

A. It was in the latter part of June of 1878.

Q. 14. Did you use this last-mentioned telephone?

A. I did for a number of days consecutively, when the Western Electric Company asked to have exchanged for another carbon telephone, which they stated had been made at the same time as the one returned.

Q. 15. How did this last-mentioned telephone work?

A. My recollection is that it worked equally as well as the one I returned; so well, in fact, that I retained it and kept it in use months.

Q. 16. How did the telephone work for which the last one was substituted?

A. My recollection is that it worked equally as well as the first carbon telephone I tried, which was said to have been made by Mr. Edison.

Q. 17. On what line were these last two telephones received by you set up?

A. They were set up to work on the line from my office to the Western Electric Manufacturing Company, but were so arranged that we could switch them on to any line we desired, and they were worked on the line extending from my office to the supply department of the Western Union Telegraph Company at the corner of Sixteenth and State streets. When I say my office, I refer to the anteroom between my office and the office of the superintendent, a place used in common by both of us. Afterwards, however, I had a telephone put up in my own room, but at what time I cannot exactly state.

Q. 18. How was the line referred to in your last answer, on which you used the Edison carbon telephone, equipped?

A. It was equipped with a small round telephone known as the Edison

telephone, a battery, and an induction-coil; also a receiving telephone, which I think at this time consisted of the ordinary Bell hand telephone. The same kind of instruments constituted the equipment at the other end—that is to say, a transmitter, a receiver, battery, induction-coil, and the necessary switches.

Q. 19. What use did you make of the last-mentioned Edison carbon telephone set up in your office—that is, the telephone which was substituted for the one you say in your 14th answer that you used for a number of days consecutively?

A. We used it for the transaction of the business between my office and the Western Electric Manufacturing Company's office, also for the business of the telegraph company between my office and the supply department of the telegraph company at Sixteenth and State street.

Q. 20. Give the date, as nearly as you can, when this instrument was set up in your office.

A. To the best of my knowledge it was the first week in July, 1878.

Q. 21. How was this Edison carbon telephone located in your office as regards its accessibility to the public, or to strangers coming into your office?

A. Strangers in entering the office of the superintendent and myself would pass through the anteroom in which the telephone was located, although I had another entrance to my room which was very frequently used. My recollection is this anteroom was the only entrance to the superintendent's office.

Q. 22. Was this telephone set up in your office in July, 1878, as you have stated, used by others than yourself, and, if so, for what purpose?

A. It was used by Colonel Wilson, the superintendent, and by the clerks in his office, of which there were four or five, for the transaction of telegraph business, to which I have before referred. I think it true that a number of persons tried the telephone, but do not know they used it for business. I have seen General Stager use it with the Western Electric Company's office.

Q. 23. At how early a date can you say such use commenced?

A. Commenced the first week in July, as soon as we received it, although we had used the other carbon telephone for a few days before this.

Q. 24. Did you use this telephone as occasion required continuously for any length of time?

A. We kept it attached to one or the other of these lines continuously, transacted our business by its use.

Q. 25. Did you personally show or explain it to any one?

A. Probably I did; but I should think my assistant, Mr. Wilson, who placed the instruments in position and attended to all work of that kind around my office, exhibited it. I was too busy with other matters to attend to the telephone, although when I had business with either the supply department or the Western Electric Company's office I used the telephone.

Q. 26. How did the Edison carbon telephone compare with the Bell or other telephones which you had previously used ?

A. It was far better than any telephone that I had ever seen ; so much better that I retained a carbon telephone in my office for continuous use for the transaction of business before mentioned.

Q. 27. Are you familiar with telephones now in general public use ?

A. I am not in detail, not being in the telephone service nor having anything to do with them whatever.

Q. 28. Please look at the paper now shown you and state, if you recognize it, what it is.

A. It is a receipt for a telephone and bears my signature.

Q. 29. Can you state for what telephone that receipt was given, and when ?

A. It was given June 27, 1878. This was evidently for the telephone of the Western Electric manufacture, furnished me first, and which I before stated I retained but a few days.

Q. 30. When did you sign that receipt ?

A. I assume that I signed it the day it is dated ; I suppose I did. Am in the habit of signing receipts, passing goods from one department to the other, and we try to keep the dates correct, to aid us in tracing in case of loss.

Q. 31. Was that receipt given in the ordinary course of business on or about the day on which it was dated ?

A. I believe it was ; such receipts were constantly being passed for material.

Q. 32. Please look at the instrument now shown you and state, if you recognize it, what it is.

A. It is what was called the Edison carbon telephone.

Q. 33. When, to your recollection, did you first see a telephone of that description ?

A. The first one I ever saw was the one I referred to before as having been sent out to the Western Electric Company by Mr. Edison.

(The paper shown the witness and referred to in his 28th answer is in evidence as Bennett's exhibit, Summers' receipt.

The instrument referred to by the witness in his answers 32 and 33 is in evidence as Batchelor's Exhibit No. 1.)

Q. 34. Please look at the instrument now shown you and state, if you recognize it, what it is.

A. This, I believe, is also an Edison carbon telephone.

(The instrument shown the witness and referred to in his last answer is in evidence as Edison's Exhibit No. 1.)

Q. 35. How do those instruments, Batchelor's Exhibit No. 1 and Edison's Exhibit No. 1, compare with the Edison carbon telephone transmitter which you used in the months of June and July, 1878, as stated in your testimony ?

A. As far as I can see they are identically the same.

Direct examination closed.

Cross-examination by Mr. CHURCH :

Q. 36. When and by whom were you first approached on the subject of giving testimony in this case or relative to this subject?

A. A few days ago I received a note, which I found upon my table after my return—I think it was a telephone message sent up from the receiving-room at the Western Union office—stating that the Western Electric Company, or some one there, wanted to see me. Having some underground cables in process of construction at the Western Electric Manufacturing Company's shop, I went over. I think the next day after I received a note I met Mr. Barton in the front office and he mentioned this subject to me—asked me if I could recall the use of these telephones.

Q. 37. Was he the only person present with whom you conversed on the subject?

A. I met Mr. Brown; he introduced me to a gentleman by the name of Swan, whom I had never seen, nor did I know he was there. Upon reflection I think Mr. Barton introduced me.

Q. 38. Referring to the instruments which you say were used in your office in the summer of 1878, did you purchase or rent them? If not, upon what terms or conditions did you obtain them from Mr. Barton?

A. The first instrument tried, which I stated I understood had been made by Mr. Edison, was simply for a trial. The next instrument which I received, and one of those made by the Western Electric Company, and which I stated was returned after a few days' use, I think was loaned to me by the Western Electric Company. The one for which this was exchanged, and which was in use for a long time, I believe was charged either to the superintendent or to the Western Union Telegraph Company. I do not know anything about the matter in connection with this instrument.

Q. 39. Did you order the instrument put in?

A. The first instrument we put up I am not sure whether I did or Colonel Wilson, the superintendent. The same may be said of the second instrument.

Q. 40. Were you at that time accustomed to obtain instruments from the Western Electric Company without knowing how they were to be settled for?

A. I presume I could have borrowed any instrument from the Western Electric if I had so desired. I don't remember, but I think I have borrowed electrical instruments from the Western Electric Company a number of times.

Q. 41. Is it not a fact that you did borrow those instruments, and that you had them to test their operation and capacity for retaining the adjustment?

A. The last instrument sent me was sent in exchange for the one which probably I had borrowed. I believe the instrument was charged to the superintendent. I should not have retained the borrowed instrument I think for months.

Q. 42. If the purpose was to ascertain by experiment the capacity of the instrument for continued use, is it not likely that you might have retained it for that purpose?

A. I was not asked by the Western Electric or any one else to make a test of the telephone; I simply did it for my own gratification. I do not know what the purpose was any more than my own gratification. I was not asked by any one to make a test of this telephone.

Q. 43. Were you not informed that other parties besides the Western Electric Manufacturing Company were making similar instruments for the Gold and Stock Company, and that the Western Electric Company were desirous of furnishing a better instrument, and to that end they were making tests of their earlier instruments?

A. No, sir; don't remember to have ever heard anything of the kind. I am quite sure that I was not requested by the telegraph company or the Western Electric Company to make a test of these instruments.

Q. 44. As electrician for the Western Union, were you charged with any of their telephone matters in the year 1878?

A. With nothing except in the latter part of 1878. A line between my office and the Western Electric was used for adjusting telephones; Mr. Wilson, my assistant, assisted in this work; I don't remember personally that I had anything to do with it.

Q. 45. Why and for what purpose did you have the several different kinds of telephones mentioned in answer to question 7 upon your office line?

A. My recollection is that Colonel Wilson, the superintendent, secured these telephones. He was agent for the Gold and Stock Telegraph Company, and probably procured them for use on their line.

Q. 46. Were they put on the line and used experimentally or for business purposes?

A. I think that while they worked they were used for business, but how long these telephones were used I could not now state.

Q. 47. Could not the experiment be conducted as well as when used for business purposes, or by using them for business purposes, as in any other way?

A. I presume they could had any one been disposed to experiment. They were used for regular transaction of business, but were not put up as a plaything or as an experimental toy.

Q. 48. Did the Gray, Phelps, and other magneto instruments referred to in your answer 7 precede or succeed the carbon instruments referred to?

A. I do not now remember, but I think near about the same time.

Q. 49. How do you fix or approximate the date when the two carbon instruments, which you say were supplied by the Western Electric Manufacturing Company, were put up and ready for operation in your office?

A. Just before these instruments were put up Mr. Wilson, my assistant, was experimenting upon an induction apparatus for use upon tele-

graph lines. I was very much interested in his experiments, and desired to try them on some of our wires between Chicago and San Francisco. Shortly after he had perfected his instrument I sent him to San Francisco, stopping along the road at different places, attaching his apparatus to the telegraph lines. The company paid Mr. Wilson's expenses, which were made out in detail, the amount of expenditures for each day during his absence, and this bill was approved by me. These telephones were put up just before Mr. Wilson started to San Francisco. I have the data in my office, which shows that he left Chicago July 12th, 1878, and returned the middle of August, 1878, probably 12th or 15th.

Adjourned to Tuesday, July 22d, 1890, at 9 o'clock a. m.

Parties met, pursuant to agreement, Tuesday, July 22d, 1890, at 9 o'clock a. m.

Present as before.

EXAMINATION OF MR. SUMMERS—Continued.

X Q. 50. How many telephones were there in use at any one time in or about your office during the first half of the year 1878?

A. I remember but one telephone at any one time; that is, when a form of the Bell telephone was used, a single instrument answered for both transmitter and receiver, but when the carbon telephone was used a separate receiver was used.

X Q. 51. Your office was in the Western Union building in Chicago during the year 1878, was it not?

A. It was.

X Q. 52. Were there other lines connected with other offices in that building upon which the telephone was used during the year 1878?

A. Other than the two lines which I have mentioned, upon which the telephone was used, I do not now remember distinctly, but I am under the impression that as Superintendent Wilson had a line between the office and his residence he used telephones thereon as soon as they came out. This line, however, had no connection with my own office.

X Q. 53. About how long did you retain the first Edison telephone loaned you by Mr. Barton?

A. My recollection about the matter is that I had it but a very short time. I could not say exactly, probably not a whole day. This was the telephone said to have been made by Mr. Edison.

X Q. 54. Did Mr. Barton request its immediate return?

A. I believe that he did; he or some one connected with the Western Electric Company.

X Q. 55. Did they give any reason for wishing its immediate return?

A. I do not now remember, but I distinctly recollect that they charged me not to open or take the instrument apart, fearing I would break the carbon of the button.

X Q. 56. You state in your testimony that you regarded that first Edison telephone as the best that had ever been introduced and that you could hear the conversation from the distant end of the line very clear and distinct. Did you listen at the transmitter? If not, how did you determine the operation of the instrument you had in your office, referring especially to the first transmitter?

A. I listened at the receiving instrument when they talked to me from the Western Electric Company's shops. My impression is that I listened at both ends of the line.

X Q. 57. What reason, if any, was given for substituting the third telephone for the second one?

A. I do not now remember.

X Q. 58. What relation or connection existed between the Western Union Telegraph Company or the Gold and Stock Telegraph Company and the Western Electric Manufacturing Company in the year 1878?

A. Of my own knowledge I cannot state. Whatever information I may have had was hearsay; if they had contracts or agreements I never saw them.

X Q. 59. What did you understand to be their relations?

A. I understood that the Western Union had an interest in the Gold and Stock Telegraph Company, but to what extent I do not remember. I never knew that the Western Union Telegraph Company had any interest in the Western Electric Company. I never knew anything about what interest the Western Union Telegraph Company and the Gold and Stock had in the telephone business, any more than they claimed, as I remember, to own some telephone patents and were at one time opening telephone-exchanges, but the particulars or details I knew nothing about. I never heard of the Gold and Stock Telegraph Company having any interest in the Western Electric Company.

X Q. 60. When was the third transmitter of the Edison type removed from your office, and why?

A. I do not remember when it was removed. It was a long time, probably months, and when it was removed it was replaced by another carbon telephone.

X Q. 61. What kind of a carbon telephone took its place?

A. I believe it was one similar in construction to the one which had been in use, and I believe a soft-carbon telephone transmitter was used continuously in the office, on the lines before referred to, a year or two, although I cannot state the time exactly. All employes in the office who used the telephone referred to liked it, because, as they stated, they were not constantly called upon to repeat their question.

X Q. 62. Will you please name all the employes in your office, as well as those in Colonel Wilson's office, who, to your knowledge, made use of

the carbon telephone prior to the 1st of August, 1878? I refer to the use of the telephone said to have been in the anteroom connected with your office.

A. Mr. C. H. Wilson, my assistant, I think Mr. Parker, Mr. Young, I think, was in the office at that time. There were some other clerks in the office, but I do not now remember who they were.

X Q. 63. How long have you been connected with the Western Union Telegraph Company?

A. Over 30 years.

Redirect examination:

R D. Q. 64. Referring to your answer to cross-question 56, in which you stated that you listened at the receiving instrument, did you also talk into the Edison carbon transmitter while others listened at the other end of the line?

A. I did hold a conversation with parties at the Western Electric shops, talking into the Edison transmitter, and listening to their talk at the receiving instrument, and I am under the impression that I then went over to the Western Electric shops on Kinzie street and held a conversation with parties at my office.

R D. Q. 65. Please explain what you mean by a soft-carbon telephone transmitter, mentioned in your 61st cross-answer.

A. The first carbon telephones which we used were composed of very fine carbon pressed into a small button, and were very fragile and easily broken. Sometime afterwards a hard-carbon button was introduced, made, I think, from coke. It was very hard, and the name "soft" and "hard" carbon we used to designate the two kinds of carbon buttons used. Wherever I have used the words "soft-carbon telephone" I refer to the Edison telephone.

R D. Q. 66. Is it or is it not a fact that the uses made by you and others of the telephones set up in your office, both carbon transmitters and magneto or Bell instruments, as stated in your testimony, were analogous to and for the same business purposes as the telegraph instruments which you had previously used in the transaction of ordinary office business?

(Counsel for Drawbaugh desires to call attention particularly to this question, and enters an objection thereto, because the same is irregular in all particulars, being argumentative, leading, and not proper redirect, seeking to interpolate into the records counsel's desires as to what the witness should say, but has not.)

Counsel for the Office states that, in view of the evident tenor of the cross-examination of counsel for Drawbaugh, he deems it proper to allow the question to stand as put, and requests the witness to answer.)

A. With the exception of the first telephone said to have been made by Edison of New York, which was simply tried for experiment, the other telephones were used and substituted for the Morse instruments which had been used before the telephone was brought out. My recollection is that the telephones were put on the lines by order of Col-

onel Wilson, the superintendent, and were used for the transaction of business, as I have before stated.

Recross-examination :

R X. Q. 67. The gentleman you have referred to as Colonel Wilson is here present, is he not ?

A. Yes, sir.

(It is agreed between counsel present that Colonel Wilson, referred to in the previous answer of the witness, first entered the room during the examination of this witness while the witness was answering the 59th cross-interrogatory, and has remained since.)

Examination closed.

CHAS. H. SUMMERS.

Subscribed and sworn to before me this 22d day of July, A. D. 1890.

[SEAL.]

WILLIAM J. STAPLETON,
Notary Public.

Before the Commissioner of Patents in the matter of the application of
Daniel Drawbaugh. Telephones.

JOHN J. S. WILSON, a witness on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Mr. Dowell, as follows :

Direct examination :

Q. 1. Please state your name, age, residence, and occupation.

A. Name, J. J. S. Wilson ; age, 56 ; residence, Chicago ; no occupation.

Q. 2. What was your occupation in 1877 and 1878 ?

A. I was superintendent of the first district of the central division of the Western Union Telegraph Company and agent of the Gold and Stock Telegraph Company. I was also financial agent of the Western Associated Press.

Q. 3. Where was your office located in 1878 ?

A. In the Western Union Telegraph building, corner of La Salle and Washington streets.

Q. 4. Where was your residence at that time ?

A. 377 Washington boulevard.

Q. 5. Prior to the introduction of telephones had you any means of communication between your office and your residence or other points in the city of Chicago ? If so, please explain fully what you had.

A. I had a private line connecting my residence and office, and also a line from my office connecting the supply department situated at State and 16th street ; also a line connecting my office with the Western Electric Manufacturing Company's office on Kinzie street, using the Morse telegraph instruments.

Q. 6. For what purpose did you use these instruments?

A. Between my office and residence, for the purpose of transacting business, when at home, with my office at such times when I remained at home; and between my office and the supply department, general telegraph business, such as directing matters pertaining to supplies received and shipped; between my office and the Western Electric Manufacturing Company, matters pertaining to instruments and supplies furnished by that company to the telegraph company pertaining to my district.

Q. 7. Was there an operator at your house who could communicate with you at your office?

A. The operating at my residence was performed by myself and my son, C. H. Wilson, when either one or the other would be at home.

Q. 8. When were these lines first erected—that is, the approximate date prior to 1878?

A. I should say some two or three years. For twenty years previous I have always connected my office with my residence by telegraph wires and instruments.

Q. 9. Did you ever use telephones on any of the lines referred to in your previous answers? If so, please state when first, and what kind of telephones you used.

A. I first placed telephones upon these lines known as the Gray bipolar instruments. I distinctly recollect of their being in use during a snow-fall late in the winter of 1877 and 1878, from the fact that the snow packed heavily about the poles and wires, cutting off ordinary communication of the telegraph wires about the city, while the telephone wires upon the same poles operated more distinct and plain than usual.

Q. 10. For what purpose did you use these last-mentioned telephones at that time?

A. Those at my residence, for directing my business at my office, and from my office, the telegraph business between the supply department and the Western Electric Manufacturing Company.

Q. 11. Did you subsequently substitute other telephones for the Gray bipolars on any of these lines? and if so, please state when and what kind of telephones were so substituted.

A. Early in the summer of 1878 I placed the Edison carbon-button instrument upon these lines, using them thereafter in the place of the bipolars.

Q. 12. Describe, as nearly as you can, the Edison carbon-button instrument mentioned in your last answer as used by you in the early summer of 1878.

A. It was a metal case with a mouth-piece on one side, and upon the opposite side oval, the top flat, with a screw-opening about the size of a silver quarter of a dollar, with two small holes for attaching a key for unscrewing the same. When opened it contained a small carbon button resting upon a metal diaphragm. The metal case was either silver

or nickel plated. I think the mouth-piece was made of hard rubber. This instrument was used as a transmitter.

Q. 13. Please look at the instruments now shown you and state how they compare with the Edison carbon-button instrument described in your last answer.

A. This instrument, I should say, was the same pattern in every respect that I used at that time.

(The instrument shown the witness and referred to by him in making his last answer is already in evidence as "Batchelor's Exhibit No. 1.")

Q. 14. Do you find any difference between that instrument and the instruments used by you, as you have stated, in the early summer of 1878?

A. I don't recognize any difference between the one shown me and the one used at that time. The other instrument shown me I do not recognize, as I distinctly remember the instruments I received were silver or nickel plated.

(The instrument referred to by the witness as "the other instrument shown him" in making his last answer is already in evidence as "Edison's Exhibit No. 1.")

Q. 15. Please state under what circumstances you first had knowledge of an Edison transmitter like "Batchelor's Exhibit No. 1," which you hold in your hand.

A. My first information came through Gen. Anson Stager, vice-president and general manager Western Union Telegraph Company, who was also president of the Western Electric Manufacturing Company, advising me that they had received pattern instruments at the Western Electric Manufacturing Company's shops from Mr. Edison, and that a few would be made as soon as possible and I should be supplied with them. Shortly after that time I received two or three of the instruments and placed them in operation.

Q. 16. For what purpose did you use the Edison carbon transmitter in the early summer of 1878 and thereafter?

A. I substituted the Edison instruments upon the lines to my residence, the supply department, and the Western Electric wires in place of the Gray bipolars, and used them for the business transacted upon those wires.

Q. 17. How were these several lines equipped when the Edison carbon transmitters were first set up?

A. We equipped these lines with the Edison transmitter, induction-coils, batteries, and either the Gray receiving instrument or the Bell, I cannot tell which, we having both kinds of receivers in use at that time. I think the first that we put up we used the Edison at one end and the Gray at the other, but I am not positive. My son, C. H. Wilson, arranged the instruments at my residence, and I paid more attention to those at my office.

Q. 18. How were the instruments at your office arranged in respect

to location—that is to say, could strangers or friends coming into the office see and use the instruments?

A. My recollection is that the instruments were placed in an anteroom adjoining my private office and C. H. Summers' office, all opening off the anteroom, accessible to the employés of the different departments who had occasion to use them in communicating with the supply department of the Western Electric Manufacturing Company or my residence. Part of the time the lines were switched into my private office for purposes of communication between my office and residence. The first instruments were used by a flexible cord attached to the transmitting instrument and held in the hand. The anteroom was a public room accessible to the public.

Q. 19. Are there any circumstances by which you can fix the date of the receipt of the Edison carbon transmitters, and of use of the same, as you have stated, in the early summer of 1878?

A. I cannot fix upon the exact date without referring to the records of my office, and am not certain that the records have been preserved. The only circumstance that I recall at present is, that it was previous to the time my son made a trip to California, that being in the early part of July, 1878.

Q. 20. When you received instruments from the Western Electric Manufacturing Company did you give a receipt for the same?

A. I presume that I did. It was the rule and order of the business to receipt for all invoices received from them.

Q. 21. Would this answer apply to the Edison carbon transmitters referred to in your testimony?

A. It would.

Q. 22. How did the Edison carbon transmitters work when you first had them?

A. They worked clearer, more distinct, and we were enabled to talk over the induction and cross-interferences from the telegraph wires that ran on the same poles with the telephone wires. In other words, it was an improvement over the bipolar.

Q. 23. How long did you continue to use Edison carbon transmitters of the flat-bottom type, shown in "Batchelor's Exhibit No. 1," after you commenced to use them in the fore part of July, 1878?

A. We used them until instruments were manufactured and placed in compact form to be sent out on orders about the city, in the country. The Edison transmitter was placed permanently in wooden cases, more convenient for use. This, I should judge, was some few weeks later.

Q. 24. Was your office supplied with an Edison carbon transmitter permanently after the flat-bottom type above referred to was placed there?

A. The flat-bottom instrument was replaced by a later pattern immediately upon discontinuing the flat-bottom type, and was used continuously from that time, as far as I recollect, until I resigned in 1881. We occasionally changed instruments, using the Edison continually.

Q. 25. Did you have charge generally of the lines of the Western Union Telegraph Company in your district during the year 1878 and thereafter while in that company's service?

A. I did.

Direct examination closed.

Cross-examination by Mr. CHURCH:

X Q. 26. You have stated in answer to question 18 that the anteroom in which the instruments were located was a public room accessible to the public. Were the instruments that you have referred to public instruments, and in like manner accessible to the public for use by them?

A. They were used for private wires for our own use, not for outside use.

X Q. 27. When Mr. Anson Stager informed you of the receipt of certain Edison instruments did he also advise you as to the purpose for which those instruments had been sent him?

A. He did not.

X Q. 28. Do you know or were you in any way given to understand that the instruments supplied you were, in fact, made by the Western Electric Manufacturing Company?

A. I was told that patterns were received by the Western Electric Manufacturing Company, and that instruments would be manufactured immediately, and that I should receive some of them. Afterwards I did receive two or three instruments from them in the regular course of business.

X Q. 29. Did you, as superintendent, make a requisition upon the supply department or upon the Western Electric Manufacturing Company for these instruments?

A. I do not think that these instruments were received on a requisition, but were directed verbally by Gen. Anson Stager to be sent to me.

X Q. 30. Were these instruments charged against your department, so far as you know?

A. They must have been charged to me, as everything sent to me by the Western Electric Manufacturing Company was charged by order.

X Q. 31. Were most of the instruments and repairs to instruments belonging to the Western Union and under your charge made by the Western Electric Manufacturing Company?

A. Only a part of the instruments used in my department came from the Western Electric Manufacturing Company, but all of the repairs in my department were made by them. The telephone instruments received by me were on account of the Gold and Stock Telegraph Company, for which I was agent, and it did not necessitate my making a requisition for them to receive them.

X Q. 32. Was the Western Electric Manufacturing Company making telephones for the Gold and Stock Company, the Western Union Company, or on their own account during the year 1878?

A. I understood at that time that they were making telephones for the Gold and Stock Telephone Company.

X Q. 33. Did Mr. Anson Stager or any other person inform you that the Edison instruments furnished you in 1878 were the first, or among the first, gotten up by the Western Electric Manufacturing Company?

A. Gen. Anson Stager informed me that the Edison transmitter was being made by the Western Electric Manufacturing Company, and from my knowledge, having charge of all the telephones here, they were among the first made here.

X Q. 34. Were these first instruments made by the Western Electric Manufacturing Company subjected to a series of tests or trials for the purpose of ascertaining the permanency of the adjustment and general efficiency?

A. I think that Mr. Summers, the electrician of the Western Union Telegraph Company, examined them at the time they were placed in use, and made a report on the work from time to time.

X Q. 35. Who adjusted the instruments in your office? I refer to the Edison carbon transmitters placed there, as you say, in the summer of 1878.

A. I handled them myself partly; Mr. Summers and my son, C. H. Wilson, were the persons that did the adjusting.

X Q. 36. Were you aware that other parties were making, or about to make, similar instruments for the Gold and Stock Company at the time these first instruments were made by the Western Electric Manufacturing Company?

A. I do not. I understood from General Stager at that time that he hoped to secure for the Western Electric Manufacturing Company the work of manufacturing these instruments for parties east.

X Q. 38. Did you from time to time inform Mr. Anson Stager or other members of the Western Electric Manufacturing Company, and did you report to the Gold and Stock Company, as to the working and efficiency of these first Edison transmitters placed in your office?

A. I had daily conversations with General Stager with regard to all such matters, and he often visited my office and examined those matters for himself.

X Q. 39. Were any changes made in the instruments furnished by the Western Electric Manufacturing Company as the result of the trials and tests made with these first instruments?

A. The changes made after the first instruments was making wooden boxes suitable to contain these instruments, and I think there was a little different pattern made of the shape of the transmitter, after which they were regarded as the standard pattern.

X Q. 40. At whose request do you appear as a witness in this case?

A. Mr. Barton, president of the Western Electric Manufacturing Company, informed me that I was wanted to give evidence in the case.

X Q. 41. Have you heretofore testified or executed an affidavit concerning the matters inquired of in this examination?

A. No; I have not.

X Q. 42. For how long a period were the first Edison carbon instruments made by the Western Electric Manufacturing Company experimented with before the standard instrument was adopted?

A. The instruments were put in use immediately upon their receipt by me, and continued in use in our business until they were exchanged for those in standard boxes, and they were not given to me to experiment with.

X Q. 43. Did not Mr. Anson Stager, or other members or employes of the Western Electric Manufacturing Company, or of the Gold and Stock Telegraph Company, from time to time, examine and test the instruments in your office to ascertain their working?

A. We had no trouble with the operation of these instruments more than other instruments of the telegraph company that we were using, and the use of them had been decided on when they were first put in use, and it only remained to receive a supply of them to replace the old style bipolar; consequently it did not require any special examination, as they were no longer considered an experiment when they reached my hands.

(Answer objected to as not responsive and the question repeated.)

A. I have no recollection of any special examination or inspection by such persons as referred to in the question.

X Q. 44. Would you probably know of the fact if such examination or inspection was made?

A. I probably would, and still an inspection of that character could be made without my knowledge.

Redirect examination :

R D. Q. 45. What was the purpose of making the adjustment referred to in your 31st cross-answer?

A. The adjustment I refer to was in the placing of the instruments and seeing that the proper batteries were connected, requiring very little attention after they were started.

R D. Q. 46. What was the nature of the report made by Mr. Summers referred to in your answer to cross-interrogatory 34?

A. Just attaching them to a wire and seeing if they were perfect and in order.

Examination closed.

JOHN J. S. WILSON.

Subscribed and sworn to before me this 22d day of July, A. D. 1890.

[SEAL.]

WILLIAM J. STAPLETON,
Notary Public,

Before the Commissioner of Patents in the matter of the application of
Daniel Drawbaugh. Telephones.

CHARLES H. WILSON, a witness on behalf of the Patent Office, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Mr. Dowell, as follows:

Direct examination by Mr. DOWELL:

Q. 1. Please state your name, age, residence, and occupation.

A. Charles H. Wilson; age, 29; residence, Chicago; superintendent Chicago Telephone Company.

Q. 2. What was your occupation in the year 1878?

A. I was assistant electrician for the Western Union Telegraph Company.

Q. 3. What were your duties generally at that time?

A. My duty was to assist the electrician for the central division of that company. The work comprised everything pertaining to the complex features in the care of instruments and lines; in other words, all electrical engineering work. We were also engaged in furthering the interest of the telephone, so far as the Western Union Telegraph Company was interested in that business. I, personally, was detailed to inspect new telephones manufactured by the Western Electric Manufacturing Company in connection with my other duties.

Q. 4. What telephones had you reference to in making your last answer?

A. I had particular reference to the Edison carbon transmitter and the Gray bipolar. The inspection, however, was required to be more careful with the Edison transmitter, and my services were more particularly required in inspecting these instruments before they were accepted from the manufacturers.

Q. 5. Who was the electrician for the central division referred to in your previous answer?

A. Mr. C. H. Summers.

Q. 6. Where was your office located in 1878?

A. At the corner of Washington and La Salle streets in the city of Chicago.

Q. 7. And your residence at that time?

A. I lived with my father at 377 West Washington street, Chicago.

Q. 8. When and under what circumstances did you first have knowledge of the Edison carbon transmitter?

A. I remember of hearing some talk about the Edison carbon transmitter about the time the first two instruments of that name were sent to the Western Electric Manufacturing Company by Mr. Edison, but my positive recollection of seeing the Edison carbon transmitter dates only back to the time when the Western Electric Manufacturing Company sent over to our office a few of these instruments, being a part of a lot of eight which that company manufactured. I am not at this time

certain that I saw the two original transmitters sent out by Mr. Edison, but the probabilities are strong that I did see them. The exact date that a few Edison transmitters were sent over to our office I am unable to remember, but I do remember that I was present when they were received, and that we had been expecting them for some days before they were received. I am positively certain, from receipts which I have seen lately, however, that these instruments were received by us during the month of June, 1878.

Q. 9. What was done with the instruments received by you, as stated by you in your last answer, as being a part of a lot of eight which were made by the Western Electric Manufacturing Company?

A. We made various tests with them to demonstrate their practicability, and equipped a telephone line then in operation between my father's office and his house. Two of these instruments were used continuously upon this line for some time afterwards, until they were replaced by two other Edison transmitters, subsequently manufactured by the Western Electric Manufacturing Company. One of the transmitters was sent to the Western Union supply department on 16th and State streets, and was used on a line from my father's office to that place. This line was so arranged, by means of a switch in his office, that he could talk over it, using the same telephones as were used on the house line, and subsequently, when these transmitters were replaced by others, we had several of them about our office and used them for experimental purposes.

Q. 10. Please explain what you mean by the use of these instruments for experimental purposes.

A. I mean that at the time in question we were striving to improve the working of the telephone, which up to 1878 was not thought to be in its very best possible shape for commercial purposes. There were many problems which electricians were endeavoring to solve, and experiments of nearly every description were being tried in connection with the telephone itself, and the apparatus which accompanied it, for commercial purposes.

Q. 11. What was the result of the tests first made with these instruments—that is, as regards their practicability?

A. We found that their use made a vast improvement in the operation of our telephone lines, and we were all very enthusiastic over the first trial made with them.

Q. 12. I intended in my last question to designate the telephones which you refer to in your 8th answer as a part of a lot of eight received from the Western Electric Manufacturing Company, and which you state were tested to demonstrate their practicability. With this explanation, please answer the 11th interrogatory.

A. These instruments were placed on the two lines extending from my father's office, his house, and to the Western Union supply department, respectively, almost immediately after they were received by us—

I think within a day or two, if not immediately—and were left upon those lines for a considerable length of time; in fact, they were left upon those lines until the Western Electric Manufacturing Company had completed a subsequent lot of Edison transmitters, the exact date of which I do not remember, nor do I remember that the first instruments were replaced immediately after a subsequent lot was received; but I do remember that at a subsequent time these same instruments were returned to our office, having been replaced by improvements. Such improvements were substantially in the mounting and in the signal-bells which were used in connection with the telephone.

Q. 13. How did this last-mentioned lot of a part of the eight Edison carbon transmitters work when you first had them set up on the lines?

A. They worked first-class, and were a vast improvement on anything we had ever seen up to that time in telephone transmitters.

Q. 14. Had you previously used other telephones on the lines on which these Edison carbon transmitters were placed?

A. The two lines referred to had been in operation for a number of years prior to the time the telephone was invented. They were used as telegraph lines. When the telephone came out the telegraph instruments were replaced by telephones, and soon as the Edison transmitter came to us these transmitters were put upon the two lines mentioned—if not immediately, within a very few days. The supply-department line was a very important one, in use often every day in connection with our business. The wire to my father's house was also an important wire used by my father and myself for communication between the office and the house when either of us or both of us were at home.

Q. 15. For what purpose did you use the telephones which preceded the Edison carbon telephones which were set up on the two lines mentioned in your last answer?

A. They were used for general business on the supply-department line. The business related principally to the filling of requisitions for supplies, shipments of material, etc. On the house line the telephones were used principally for the forwarding of telegrams from the office to the house, a large number of which were constantly received relating to the business of the company.

Q. 16. For what purpose did you use the Edison carbon transmitters which were substituted for the telephones previously in use upon these two lines?

A. They were used substantially for the same purpose. They were added merely to improve the operation of the lines.

Q. 17. Did they work satisfactorily at this time?

(Objected to as leading.)

A. They did work very satisfactorily.

Q. 18. How were these lines equipped when the Edison carbon transmitters were first set up—that is to say, what apparatus did you use in connection with the Edison carbon transmitters?

A. The apparatus at each end of the line consisted of the following instruments: Edison transmitter, induction-coil for same, Gray bipolar telephone, used as receiver, telegraph sounder, battery, and key for signal. This is the principal part of the equipment as used at each of the three stations; but at my father's office a switch was used, and arranged so that the telephone at that point could be used alternately on the house and supply-department line respectively.

Q. 19. Please describe, as nearly as you can, the Edison carbon transmitter first set up on the lines before referred to.

A. The Edison transmitter referred to consisted of a small disk or button made of compressed lamp-black. This button was incased between the two metallic disks with platinum faces, one being on either side of the button, or I should say one on top and the other beneath the button. The top disk had attached to it a small projecting ring, which made contact with the diaphragm, the latter being placed horizontally over the button and disks. The whole was inclosed by a nickel-plated metal covering, which had an adjustment at the bottom and a mouth-piece at the top. The adjusting was accomplished by inserting a fork with two prongs into two holes provided for the purpose at the bottom of the instrument. Upon the exterior were two small binding-posts, which were electrically connected through the interior with the two platinum-faced disks at the top and bottom of the carbon button respectively.

Q. 20. How do the instruments now shown you compare with the instruments used by you, as you have stated in your testimony and described in your last answer?

A. One of the instruments, the one which I hold in my hand, is identical, and I believe it to be one of the lot of eight instruments which I have referred to.

(The instrument shown the witness and referred to him in making his last answer is in evidence as "Batchelor's Exhibit No. 1." Answer continued.)

The second instrument, which I now hold in my hand and which is marked "Edison's Exhibit No. 1," is very similar in construction to the first instrument, but it is not nickel-plated, and I do not recognize it as any one of the lot of eight made by the Western Electric Manufacturing Company, as heretofore referred to.

Q. 21. Are there any circumstances by which you are enabled to fix the date of the receipt of the Edison carbon transmitters from the Western Electric Manufacturing Company and the use of the same, as set forth in your testimony?

A. I have seen a receipt within the past few days, given and signed by Mr. C. H. Summers, for a part of these Edison transmitters, which receipt is dated June, 1878. I recognized on this receipt the signature of Mr. Summers. July 10th, 1878, I left Chicago on a trip to California, and returned August 11th, 1878. These exact dates I have fixed by ref.

erence to my expense account. Within a few days after my return from California I sent to Burlington, Iowa, some telephonic apparatus, including one Edison transmitter, and, remembering that I had an accumulation of work upon my return from California, it would have been impossible for me to have made the tests and equip the lines to my father's house and the Western Union supply department during the interval between the dates of my return from California and the sending of the apparatus to Burlington, Iowa. The apparatus was sent for the purpose of ascertaining whether the Edison transmitter would talk over a line from Chicago to Burlington, and, as I remember, this was the continuation of some tests which had been started before I left for California. The circumstances are such as to leave no doubt in my mind that the first lot of eight Edison transmitters were received by us during the month of June, 1878, and before my trip to California.

Q. 22. Please look at the paper now shown you and state, if you recognize it, what it is.

A. The paper I hold in my hand marked "Bennett's Exhibit, Summers' Receipt," I recognize as a receipt such as we were in the habit of giving to the Western Electric Manufacturing Company for apparatus delivered by them to us at that time. I recognize the signature of C. H. Summers, and the receipt is for one carbon telephone, number 5,010, delivered June 27th, 1878. This is the same receipt that I have already referred to, and which was shown me within the last week or ten days.

Q. 23. Did you have knowledge of a telephone line connecting your father's office with the Western Electric Manufacturing Company's office in the summer of 1878?

A. My memory as to this line is not perfectly clear, but I have a clear recollection of a line between the Western Electric Manufacturing Company and the office of the electrician, which office was located next door to my father's office and used by Mr. Summers and myself.

Q. 24. What instruments did you use on this last-mentioned line and when?

A. This line had been in operation for a long time prior to the advent of the Edison transmitter. It, like the other line, had been used for telegraphing, and the telegraph instruments were superseded by telephones. There is a strong probability that a part of the lot of eight of Edison transmitters were used upon this line, but my recollection does not serve me so clearly as it does on the two lines to my father's house and the supply department. I remember the supply-department line well, for the reason that it was extremely noisy from the inductive disturbances arising from telegraph wires upon the same poles, and the use of the Edison transmitter enabled us to a great extent to overcome these difficulties and transact our business in a more satisfactory way. These circumstances, together with the fact that the set of instruments at my father's office were used jointly for the house line and the supply-

department line, fix the matter firmly in my mind. There was nothing unusual, so far as I remember, in the working of the wire between our office and the Western Electric Manufacturing Company, and I do not remember in regard to this line so clearly ; but as we were transacting business daily between our office and the Western Electric Manufacturing Company over this line it is very natural that we should have placed some of the improved instruments upon this line.

Direct examination closed.

Cross-examination by Mr. CHURCH :

X Q. 25. Were you in the employ of the Gold and Stock Company in the year 1878 ?

A. I was not.

X Q. 26. By whom were you detailed to inspect new telephones made by the Western Electric Manufacturing Company in that year and what were your instructions ?

A. I was detailed by Mr. C. H. Summers and received all my instructions from him. My instructions were such that required me to test all Edison transmitters manufactured by the Western Electric Manufacturing Company, and such tests were made principally by the actual use of the transmitters between the Western Electric Manufacturing Company's factory and our office, using the line between those two points which we have been talking about. The Edison transmitters were all numbered, and it was my business to pass judgment upon each and every transmitter and to make a report of the numbers of the same so tested.

X Q. 27. To whom did you make that report ?

A. I made that report to Mr. C. H. Summers, the electrician.

X Q. 28. Why, if you know, were but eight transmitters made in the first lot ?

A. I do not know why.

X Q. 29. Did you in any way determine the disposition to be made of the transmitters tested by you ?

A. No, sir.

X Q. 30. Who, if you know, did determine the disposition to be made of such instruments, and what action, if any, was based upon your report ?

A. I do not remember of having had any knowledge pertaining to the disposition of the instruments. The action based upon my report related to the acceptance of the apparatus from the Western Electric Manufacturing Company. The impression which I now have is that Mr. Summers received a request from the electrician at the executive office of the company in New York to make the inspection referred to and that the apparatus was ordered from New York.

Adjourned until Wednesday, July 23d, at 9 o'clock a. m.

CROSS-EXAMINATION OF MR. CHARLES H. WILSON—Resumed.

X Q. 31. Did you understand that the Western Electric Manufacturing Company were in any way connected or related to the Western Union Telegraph Company in the year 1878? if so, in what respects?

A. My understanding was that the Western Union Telegraph Company was a stockholder of the Western Electric Manufacturing Company. This, however, was only by hearsay, and I could not testify to this from any positive information I may have had. The Western Electric Manufacturing Company manufactured largely for the Western Union Telegraph Company, and on this account I had considerable intercourse with them during that year

X Q. 32. During the time the first lot of Edison transmitters were being manufactured by the Western Electric Manufacturing Company did you visit the latter company's works and observe the instruments in process of construction?

A. I was so frequently at the factory of the Western Electric Manufacturing Company during that period that I am inclined to think that I did see the instruments in the process of manufacture, but I have no clear recollection of having seen them in the process of manufacture, and would not like to testify further than this. I cannot at this time recall to mind having seen the particular instruments in question before they were delivered to us.

X Q. 33. At the time you received the first carbon transmitter, as referred to in your evidence, such an instrument was a novelty in this part of the country, was it not, and excited some attention among the officers and employes of the company with which you were connected?

A. Yes, sir; that is so.

X Q. 34. You were not familiar with the capacities, operations, and endurance of such an instrument, were you, at the time when you received the first Edison instrument?

A. No, sir; it is fair to say I was not.

X Q. 35. And up to and prior to the time mentioned had you any familiarity with the operation, action, and capacity of a telephone transmitter used in connection with an induction-coil? In other words, did not the induction-coil, as used in connection with such an instrument, also represent a novel feature in telephony so far as your experience had gone?

A. The mere feature of using an induction-coil in connection with telephonic transmission was not new to me at that time. The use of an induction-coil in connection with the Edison transmitter was of course new, because the transmitter itself was new. Induction-coils had been used prior to that time in connection with many other forms of electrical apparatus, and especially in connection with the Gray harmonic telephone, so that I cannot say that the use of an induction-coil impressed

me as being new or novel, excepting so far as its use related to the Edison transmitter.

X Q. 36. Were you familiar with the use of the induction-coil in connection with an articulating transmitter, as contradistinguished from the harmonic system of telegraphy?

A. I do not recall having seen induction-coils used for practical purposes in connection with articulating telephones prior to the advent of the Edison transmitter.

X Q. 37. Was not the efficiency of the Edison transmitter considered to be due in part to the induction-coil used in connection therewith?

A. I think it was so considered. The induction-coil was deemed part and parcel of the equipment for the Edison transmitter as used for commercial purposes; but I was aware of the fact that the Edison transmitter would talk without the use of an induction-coil, as I remember distinctly of demonstrating this to be a fact shortly after the Edison transmitters were received.

X Q. 38. Did you know or were you given to understand that the Edison carbon transmitter was to be introduced in this district by or under authority of the Western Union or the Gold and Stock Company?

A. I cannot say that I had any positive knowledge on this; but I am sure that we supposed that it would be introduced and used, for I can clearly remember of the enthusiasm felt in relation to the matter of competition with the Bell exchange, which would not be able to have such advantages as would be afforded to the Edison exchange in which we felt interested by the use of the Edison transmitter upon the lines of the latter. I will say for your information that during the same period I was personally engaged, in connection with my other duties, in assisting the Edison-exchange people to overcome certain difficulties they were at that time having in the practical part of their business. This is why I felt a personal interest in the matter of competition.

X Q. 39. What were those difficulties to which you allude?

A. They were many, one of which was the question of switch-board and the operation of the same. It was about this time that the multiple-switch-board system was invented. I was one of the inventors of it, and this occupied considerable of my time. We realized the importance of louder transmission of speech, and looked forward to the Edison transmitter as being a great step in that direction.

X Q. 40. The Edison company was desirous of putting in the most improved and perfect instruments in competition with the Bell company, was it not?

A. That was true. By the Edison company you understand I mean the American District Telegraph Company, which was popularly called the Edison company after the introduction of the Edison transmitter, and was known as such, popularly, for a long time afterward.

X Q. 41. When, if you know, did that company put out the Edison transmitters for their customers?

A. I do not recall the exact date, but it was very soon after the Edison transmitter first came to Chicago. I know that Mr. Firman, the general manager of that company, was greatly interested in the Edison transmitter as soon as the first lot was received and brought to his notice, and if I am not mistaken he obtained and used a part of the first lot. To what extent they were used I am unable to tell, and I do not remember when the subsequent lot were manufactured, but they came along soon after the first, and I should say, from my memory, within a month or so.

X Q. 42. Do you mean that Mr. Firman got some of the first lot of 8 instruments to which reference has been made in your testimony?

A. Mr. Firman at that time was in and out of our office almost daily, and the intercourse between his office and ours was very close. I can remember of him taking part in certain trials and tests which were made with these Edison transmitters, and my impression is that he had in his office a few of these instruments. Whether he retained them there for any length of time or not I am unable to say.

X Q. 43. Do you know, of your own knowledge, that the receipt marked "Bennett's Exhibit, Summers' Receipt," was signed by Mr. Summers on the day of its date?

A. I do not remember of having seen Mr. Summers sign that receipt on the day of its date, but the receipt is similar in every particular to those which both Mr. Summers and myself were accustomed to signing for goods received from the Western Electric Manufacturing Company, and I am certain that the signature is that of Mr. Summers.

X Q. 44. Is the Chicago Telephone Company, of which you are superintendent, a licensee of the American Bell Telephone Company?

A. Yes, sir.

X Q. 45. At whose request or under whose instructions do you appear as a witness in this case?

A. I have received no instructions; merely a request from W. W. Swan. Mr. Swan introduced me to Mr. Dowell, and requested me to give him my testimony.

X Q. 46. The first lot of 8 instruments, concerning which you have testified as having been made by the Western Electric Manufacturing Company, were constructed on the same pattern and made with interchangeable parts, were they not?

A. I could not say as to that, for I do not remember whether the parts were interchangeable or not. They were substantially alike, and while I believe the parts were interchangeable I do not now know that to be a fact.

X Q. 47. Did you observe the numbers on those instruments when you saw them first?

A. I am unable to say as to this; but as all telephones were numbered and were required to be recorded by numbers it is fair to assume that the numbers were observed. It was generally understood that all tele-

phones were charged out by their serial numbers, which practice has continued up to the present day.

X Q. 48. I observe that the number on the instrument Batchelor's Exhibit No. 1, which has been referred to in your testimony, is impressed upon the head of the removable adjusting-screw in the back of the case. Will you please state on what other portion of the instrument, if anywhere, the numbers were placed on those first 8 transmitters?

A. I do not remember of ever having seen the numbers stamped in any other place than upon the adjusting-screw referred to.

Redirect examination by Mr. DOWELL :

R D. Q. 49. Did you ever see an Edison carbon transmitter other than the 8 referred to in your testimony, and as exhibited in Batchelor's Exhibit No. 1, having the adjustment shown in that exhibit?

A. Yes, sir; I have seen one or two transmitters of similar pattern said to have been manufactured by Mr. Edison, one of which you hold in your hand.

R D. Q. 50. Please answer the question excepting the two Edison instruments referred to in your last answer.

A. I do not remember of ever having seen any transmitters with the peculiar form of adjustment which the lot of 8 referred to had, other than this lot and the two said to have been made by Mr. Edison.

CHARLES H. WILSON.

Subscribed and sworn to before me this 23d day of July, A. D. 1890.

[SEAL]

WILLIAM J. STAPLETON,

Notary Public.

CHICAGO, *July 23d*, 1890.

Parties met pursuant to agreement. Counsel present as before.

DEPOSITION OF ENOS M. BARTON.

ENOS M. BARTON, a witness on behalf of the Patent Office, being first duly sworn, doth depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows:

Direct examination :

Q. 1. Please state your name, age, residence, and occupation.

A. Name, Enos M. Barton; age, 47; residence, Chicago; occupation, president of the Western Electric Company.

Q. 2. What was your occupation in 1878?

A. I was secretary and manager of the Western Electric Manufacturing Company, the predecessor of the Western Electric Company.

Q. 3. What was the business generally of the Western Electric Manufacturing Company?

A. The business of the Western Electric Manufacturing Company was manufacturing electric instruments and dealing in telegraph and other electrical supplies.

Q. 4. Did the Western Electric Manufacturing Company in 1878 manufacture any telephones? if so, what kind?

A. It did. It manufactured magneto-telephones of the sort known as Gray's bipolar, and it manufactured Edison transmitters during that year.

Q. 5. Were the Edison transmitters referred to in your last answer manufactured in accordance with patterns or samples furnished you by any one? If so, from whom did you get the samples and when?

(First part of the question objected to as leading.)

A. The first Edison transmitters that we made were according to samples furnished us by Mr. Edison on the request of the Gold and Stock Telegraph Company. This company made the orders upon us. The first transmitters were made and completed during the month of June, 1878. Later in the year the patterns were changed somewhat in detail as a result of consultation on behalf of the Gold and Stock Company between Mr. George M. Phelps of New York and other mechanics. We made the instruments according to the styles directed by the Gold and Stock Telegraph Company. They were all made according to the general model furnished by Mr. Edison. The changes were changes of detail only.

Q. 6. Have you any correspondence bearing upon this subject by which you are enabled to fix the dates referred to in your previous answers?

A. I have our correspondence of that period. Our letter-book No. 15 covers the period from April 2d, 1878, to August 2d, 1878. This letter-book has letter-press copies of letters written by our company between the dates mentioned. I have also original letters received bearing on the subject of our manufacture of telephones, and produce the book and letters for inspection of counsel.

On page 540 of the letter-press copy-book is a letter from myself to George Walker, vice-president of the Gold and Stock Telegraph Company of New York, dated June 5th, 1878.

(Any testimony which may be given by the witness concerning any letters or other record is objected to as secondary evidence, unless the original press copies are properly introduced in evidence. This objection is to stand, by consent, to all the testimony given by this witness to which it may apply, without repetition of the objection.)

I have the original letter of George Walker, vice-president, dated June 7th, 1878, which is in answer to mine of the 5th. I have also the original letter, dated June 7th, 1878, of Charles Batchelor, Mr. Edison's assistant, of Menlo Park, addressed to George H. Bliss. I have also the original letter from Vice-president George Walker, dated June 11th, addressed to me. On page 610 of the letter-book, dated June 13th,

1878, is the letter-press copy of the letter from me to Mr. George Walker, mentioning the receipt on the previous Saturday of the Edison transmitters. I have an original letter from Samuel S. White, June 15th, 1878, addressed to me. The letter was urging promptness in getting the instruments completed, and urging us to comply with Mr. Edison's preference in putting in the carbon button.

On page 647 of the letter-book is my answer to Dr. White's last-mentioned letter, stating that we were disposed to conform to Mr. Edison's wishes, and mentioning that we had sent forward two of the new transmitters made by us to Mr. Edison. On page 646 of the copy-book I find my letter to Mr. Edison, dated June 18th, 1878, mentioning the shipment to him of some of the new-made instruments. On page 649 of the letter copy-book is my letter dated June 18th, 1878, to Dr. Muirhead, of London, in which letter is a mention of our having sent some carbon telephones of our own make to Mr. Edison for his approval.

(Copies of the several letters referred to by the witness in his last answer, attached together in the order mentioned, are offered in evidence and marked "Barton's Exhibits 1 to 9," inclusive.)

Q. 7. In view of the above objection of counsel for Drawbaugh, the witness is requested to state to whom the records which he has produced belong, and whether or not the owners are willing for the originals to be produced in evidence.

A. The originals are the property of the Western Electric Company, of which I am president. In behalf of that company I would be willing to furnish the originals for inspection at any time, and to send them to be produced at any hearing where they may be wanted. The company will not consent that they should go permanently out of its possession.

Q. 8. Please look at the letter I now show you, which is in evidence as "Edison's Exhibit No. 15," and, if you recognize it, state your recollection concerning the same.

A. On page 595 of the copy-book I find the letter-press copy of this letter. I recognize it as my letter to Mr. Edison of that date. It mentions our having received two telephone transmitters, which were to serve as models for some which we were to manufacture for the Gold and Stock Telegraph Company. It ends with a request that we might put in the carbon button into the transmitters which we were making. My recollection is still distinct with regard to these circumstances.

Q. 9. Did you test or cause any test to be made of the sample telephones received from Edison?

A. We did test them and cause them to be tested.

Q. 10. How did they work?

A. They worked astonishingly well.

Q. 11. When was the test made?

A. As soon as the instruments were received, which by the correspondence which I have here I fix as the Saturday before the 13th of

June, 1878. The Saturday referred to must have been Saturday June 8th, as I find no letters written on the 9th, and the other dates are all represented in the book. The 9th must have been Sunday.

Q. 12. How did the first transmitters which you say in your 5th answer were completed during the month of June, 1878, compare with the samples sent you by Mr. Edison?

A. They were as nearly as possible exact copies of Mr. Edison's instruments.

Q. 13. Did you test them so as to make a comparison with the Edison instruments?

A. We did as soon as we received carbon buttons.

Q. 14. When did you receive the carbon buttons?

A. It must have been from the 18th to the 20th of June, 1878. Mr. Edison's telegram to me, dated the 18th of June, said that the buttons had been sent me on Saturday. This Saturday must have been the 16th. We had the telephones equipped with the buttons on or before the 20th of June, 1878, for we used the instruments on the evening of June 20th at the exhibition before the Chicago Electrical Society. I have Mr. Edison's original telegram here, referred to in my last answer.

(A copy of the telegram referred to by the witness is offered in evidence as "Barton's Exhibit No. 10.")

Q. 15. What was the result of this test with the first instruments made by your company?

A. They worked equally well with the instruments that we had received from Edison.

Q. 16. Please look at the paper now shown you, marked "Edison's Exhibit No. 17," and state, if you know, to what it has reference.

A. It has reference to a comparison in detail of the different parts and the fits of the different parts of the carbon telephones which we had made between the 9th and 18th of June, 1878, with the similar parts of the instrument that we had received from Edison and used as a model. This memorandum is in the handwriting of Mr. M. G. Kellogg, who was connected with our company at that time as an expert. The memorandum at the bottom of Mr. Kellogg's work is in my own handwriting, and has reference to a comparison of our induction-coils with Mr. Edison's. In making this comparison we used Mr. Edison's telephones with which to test the induction-coils.

Q. 17. Have you in your possession any of the original instruments first made by your company in accordance with the Edison sample?

Adjourned until 1.30 o'clock p. m.

A. I have here two of those instruments. They are numbered on the back 5008 and 5010. I have also a portion of No. 5006.

Q. 18. Please look at the instrument now shown you and state if you recognize it.

A. The instrument which you hand me is one of the same batch. I notice that it is numbered 5004.

Q. 19. State if you recognize any difference between the instrument which you hold in your hand, which is marked Batchelor's Exhibit No. 1 and is numbered 5004, and the instruments which you have just produced—Nos. 5008 and 5010.

A. There is no difference in construction between these instruments. Since it was first made No. 5008 has had a couple of holes bored through the rim, but the construction of the three is the same.

Q. 20. State if you recollect at what number you began to number the instruments first made by your company.

A. We began the Edison transmitters at 5000 or 5002, and numbered from there, using the even numbers.

Q. 21. How many were made in the first lot, which you say were completed in June, 1878?

A. I think the number was 8; it may have been 10; our records will show.

Q. 22. What was done with the 8 instruments made by you at that time?

A. Two of those instruments were sent to Mr. Edison before we received any carbon buttons. The other 6, or whatever the number may have been, were used principally at Chicago on different lines. They remained in use until their places were taken by instruments of later construction, which were arranged with a different method of fastening to the induction-coil and different method of connection to the battery. The greater part of them afterwards came back into our possession. Our records will show who had them.

Q. 23. Give the lines on which these instruments were first used and the dates as nearly as you remember.

A. One of the first line on which these instruments were used ran from our office and factory to the office of the president of our company, General Stager, and to the office of the electrician and district superintendent of the Western Union Telegraph Company in the building known as the Union building. Some of them were used by Mr. Firman of the American District Telegraph Company on some lines in his control. They were used as soon as they were completed, which was as early as the 20th of June, 1878.

Q. 24. For what purpose were they used?

A. They were used for communicating between one office and another, for the general purposes for which telephones are used.

Q. 25. How did they work when used for the purposes mentioned?

A. Astonishingly well.

Q. 26. Did you yourself talk through them?

A. I did, indeed. These telephones were first-class transmitters, and gave results which up to that time had been impossible to obtain with any other kind of instrument. They created a great sensation in Chicago when they first began to be used; they were very nearly as good as the best instruments which have been made up to the present time.

Q. 27. Had you previously used magneto or Bell instruments, and, if so, how did the Edison carbon transmitter compare with such instruments in use?

A. We had previously used the Bell magneto instruments and other magneto instruments—such, for instance, as Gray's bipolar. These instruments required loud shouting at the transmitting end and close listening at the receiving end of the line, and even then much of what was said would be lost and have to be repeated. The Edison instruments were clear and distinct, and one could hear what was said even when there was a good deal of disturbance on the line and when there was a good deal of noise in the room where the listener was.

Q. 28. What kind of receivers did you use on the lines you have mentioned in connection with the Edison carbon transmitters?

A. Chiefly, I think, the Gray bipolar magneto-telephones.

Q. 29. Look at the instrument now shown you and state if you recognize it.

A. It is one of the two that Mr. Edison sent us for a model, which were received by us about the 8th of June, 1878.

(The instrument shown the witness and referred to in making his last answer is in evidence as Edison's Exhibit No. 1.)

Q. 30. Have you the mate to this instrument in your possession?

A. I have; it is here, and I produce it for inspection of counsel.

Q. 31. Have you recently tested this instrument, and, if so, with what results?

A. Yes, I have talked through it and listened to talk from it both within the last few days. It is still a good transmitter.

(All testimony concerning the construction and operation of the instrument referred to by the witness is objected to unless said instrument is put in evidence.)

Q. 32. Please examine the several instruments here present which you have produced and those which have been shown you and concerning which you have testified, and state whether or not you find any change has been made in any of the instruments manufactured by your company or the two received from Mr. Edison since you first had them.

A. There is more or less rust upon the metal. They are, however, in the same general condition as when first made. I observe no changes except the two holes in the rim of 5008 that I mentioned before.

Q. 33. Are you willing to allow the original instruments which you have produced to be offered in evidence?

A. We are willing to furnish them for inspection, and to send them away for use in any hearing where they may be wanted. I could not consent, however, to have them go permanently out of our possession.

Q. 34. Please explain what is meant by the term "Not to be taken down" on the Edison sample transmitter which you have produced as a mate to Edison's Exhibit No. 1.

A. The instrument was marked "Not to be taken down" because it

was intended to keep it as a standard with the same adjustment that it had when it left Mr. Edison's laboratory. He requested us not to have it taken apart, and it has never been taken apart to this day. I have not had it in my personal possession all the time, but I am sure it has not been taken apart.

Q. 35. Did you receive sample induction-coils with the first two Edison transmitters referred to in your testimony?

(Objected to as leading. Question withdrawn.)

Q. 36. What apparatus, if any, did you receive with the first transmitters sent you by Mr. Edison?

A. Connecting-cord and induction-coils.

Q. 37. For what purpose were the induction-coils sent to you?

A. For use in connection with these telephones and to serve as models to make others by.

Q. 38. What other apparatus did you make for use in connection with the Edison transmitters made in June, 1878, as recited in your testimony?

A. We made induction-coils and furnished connecting-cord to go with the transmitters.

(By consent the examination of this witness is suspended until Thursday, July 24th, at 9.30 a. m.)

Parties met pursuant to agreement. Counsel present as before.

Q. 39. How soon after making the original lot of telephones in June, 1878, did you commence to manufacture other Edison carbon transmitters under the order for 250 mentioned in Mr. Walker's letter of June 11, 1878, a copy of which is in evidence as your Exhibit No. 4?

A. Soon after the 4th of July following.

Q. 40. Have you any correspondence by which you can fix this date?

A. I have the original letter of George Walker, vice-president, dated July 8th, addressed to Mr. M. G. Kellogg, requesting that we proceed as rapidly as possible to complete the order for 250 Edison telephones, which order had been given to me on the 11th of June, a copy of the letter of June 11th being in evidence as my Exhibit No. 4.

(A copy of the original letter of Walker to Kellogg referred to by the witness in his last answer is offered in evidence as Barton's Exhibit No. 11.)

Q. 41. Have you in your possession any of the instruments which you commenced to manufacture, as stated in your previous answer, soon after the 4th of July, 1878?

A. Yes, I have one of that kind of transmitter.

(All testimony concerning the instrument referred to by the witness objected to unless the said instrument is put in evidence. By consent this objection stands without repetition in subsequent examination.)

Q. 42. Will you produce the instrument referred to in your last answer?

A. I have it here, and am willing to submit it for inspection, but am not at present prepared to part with it permanently. The instrument is marked on the metal "F. 5114."

Q. 43. How does that instrument differ, if at all, from the instrument concerning which you have already testified, and which is in evidence as Batchelor's Exhibit No. 1?

A. The adjustment of the carbon button is by a screw; the mouth-piece is shallower, and the shape of the back casting is a little different; it has two holes through the rim; the interior was quite similar to that of the other instruments. It was not, however, exactly the same.

Q. 44. Do you find any essential difference in the construction?

A. The differences are those of detail; the essential construction was intended to be and was the same as the others—that is to say, each instrument had a mouth-piece, diaphragm, carbon button, and an electrode with suitable electrical connections and means for adjusting the closeness of the contact between the carbon button and the electrode. In making this answer I have examined the interior construction of instrument F. 5114, and have also Batchelor's Exhibit No. 1 before me.

Q. 45. When did you begin to send out the first Edison carbon telephones manufactured after the original 8?

A. My impression is it was in August, but I do not at this moment know the exact date.

Q. 46. When you began to manufacture the instruments in quantities what disposition did you make of them as regards shipment or distribution?

A. They were used in the West. We delivered them to the agents of the Gold and Stock Telegraph Company and to the American District Telegraph Company at Chicago.

Q. 47. Did you personally exhibit the telephone before the Chicago Electrical Society, referred to in your 14th answer?

A. I did.

Q. 48. What telephones did you use on that occasion and what was done there?

A. We had a line from our factory on Kinzie street, north of the river, to the rooms of the Electrical Society meeting, which I think were located on Wabash avenue near Van Buren street. We had a transmitter and battery at the factory and a number of receivers, probably a dozen, connected in the circuit, so that we could let a considerable number of the audience listen at one time. We passed the receivers along from bench to bench, and let those occupying the benches listen to the words spoken at the factory. The transmitters used were the Edison carbon telephone, which we had just completed within two or three days preceding the meeting, and very likely we had the original instrument received from Edison, though I do not now remember that distinctly as being used on that occasion. We had bipolar receivers. The exhibition produced a great sensation on the part of the

audience, which was composed of people in Chicago most interested in electrical matters. There was a large audience present that evening. The construction of the instrument was explained in connection with the exhibition of conversation over the line.

Q. 49. Have you any correspondence relating to the exhibition referred to in your last answer by which you are enabled to fix the date?

A. On page 622 of my letter-book, referred to in previous answers, I find the letter-press copy of my letter to Mr. Edison asking if I could state at this meeting his relations with the microphone, and I have the original of his reply, dated June 17th.

(Copies of the letters referred to by the witness in his last answer are offered in evidence and marked respectively Barton's Exhibits Nos. 12 and 13.)

Q. 50. When were the several letters and telegrams referred to in your testimony as having been received by you or your company and the several letters referred to as having been sent to other parties received and sent respectively?

A. To the best of my knowledge they were received in the ordinary course of business at about the time of their dates.

Q. 51. By whom were you paid for the instruments manufactured by you concerning which you have already testified?

A. By the Gold and Stock Telegraph Company.

Q. 52. Look at the letter now shown you and state if you recognize it. (The witness is here shown Edison's Exhibit No. 16.)

A. Yes, it is my letter of June 18th to Mr. Edison.

Q. 53. Is that your signature on the letter?

A. It is signed by me with pen and ink.

Q. 54. State your recollection concerning the matters and thing recited in that letter.

A. It refers to the sending by us to Mr. Edison of two of the first lot of telephone transmitters that were made, and explains why the words "Edison's Carbon Telephone" were not placed upon the instruments. It also mentions the pencil memorandum of the comparison which had been made of the various parts of our instrument and the corresponding parts of his model. We were very anxious that our instruments should be satisfactory to him, but we had no means of making sure that they would work well in the absence of the carbon button, which at the time the two transmitters were sent to him had not yet been received.

Q. 55. Have you any correspondence or letter of instructions concerning the transmitters sent you by Mr. Edison? If so, please produce it.

A. I have the letter of Charles Batchelor, Mr. Edison's assistant, written from Edison's laboratory, dated June 7th, 1878, addressed to George H. Bliss, giving specific directions in regard to various points of the transmitters. This letter of instructions is the one referred to in my letter of June 18th, Edison's Exhibit No. 16.

(A copy of the letter of instructions referred to by the witness is in evidence as Barton's Exhibit No. 3.)

Q. 56. What was the purpose of comparing your induction-coils with those received from Mr. Edison mentioned in your 16th answer?

A. Mr. Edison was very particular about all the parts of his apparatus and did not seem to think we could make anything in Chicago that would be good. We were endeavoring then to convince him that at least when we had a good model to work from we could copy it. Our object in making the comparison was to see first for ourselves and then to convince him that we were doing the work right. If we could satisfy him on that point we had the promise of a large line of work in the manufacture of these transmitters. We did succeed in convincing Mr. Edison and others that we could make such instruments in a satisfactory way, and for some time following this period we were very full of work on these instruments.

Q. 57. Whose signature, if you know, is attached to each of the letters of June 7th and June 11th, 1878, addressed to yourself, and the letter of July 8th, 1878, addressed to M. G. Kellogg, copies of which are in evidence as above noted?

A. The signature to the letters of June 11th and July 8th is by George Walker. That of June 7th I am not certain of. It might be written by his clerk, as the handwriting resembles that of the body of the letter, and there is a mark after the signature which I take to mean that the name may have been signed by another than Mr. Walker.

Q. 58. In whose handwriting is the signature attached to the letter of June 15th, addressed to yourself, a copy of which is in evidence as your Exhibit No. 6?

A. The signature is in the handwriting of Dr. White—Dr. Samuel S. White—now deceased.

Direct examination closed.

Cross-examination by Mr. CHURCH:

X Q. 59. The first 8 instruments made by the Western Electric Manufacturing Company were ordered by the Gold and Stock Telegraph Company, were they not? I refer to the Edison transmitter.

A. Six were ordered by the Gold and Stock Telegraph Company, and we made two extra ones over and above the order.

X Q. 60. Were the 6 delivered to the Gold and Stock Telegraph Company?

A. They were delivered to their agents and representatives; I don't think they ever went to New York to be delivered to the company's premises there.

X Q. 61. Were you instructed to deliver them to their agents? If so, what instructions were given and who were their agents here?

A. We were instructed to deliver them to their agents. Their agent in Chicago was Colonel Wilson, and it was understood that General Stager could give us orders on behalf of the Gold and Stock Company from time to time. The American District Telegraph Company was also

designated in Chicago as one to whom the instruments should be delivered.

X Q. 62. Was General Stager an officer of the Gold and Stock or Western Union Telegraph Companies?

A. He was a director in both companies, and general superintendent for the Western Union Company, and I think at this time vice-president for the Western Union. He was at this time president of the Western Electric Manufacturing Company, and I think also of the American District Telegraph Company.

X Q. 63. What instructions were given concerning the delivery of those first Edison telephones?

A. The first instructions were that the 6 were to be delivered to and tested by Mr. Edison. These instructions were modified, I think now, by verbal instructions, to admit of as many as possible being retained in Chicago, where they were very much needed, two only having been sent to Mr. Edison.

X Q. 64. At the time you received an order for the first 6 Edison telephones were you aware that other parties were competing for the manufacture of these instruments?

A. I was aware of the fact. I understood that Partrick & Carter of Philadelphia were competing for the manufacture, and there was a good deal of question in our minds whether the Western Union Telegraph Company would not want to have them made in their shop in New York.

X Q. 65. And for that reason you were particularly desirous of producing as perfect samples of your work as you were able to, and were desirous of making the best possible showing in order to get the work; is this not a fact?

A. We were desirous of doing the work well and of doing it promptly, and of convincing our friends in the East that we could do so.

X Q. 66. Were the parts of those first 8 instruments made on the interchangeable plan?

A. There was no elaborate set of tools made for making the various parts of these instruments, but the various parts were made to gauge us. My recollection is that Mr. Edison sent us a set of gauges with the first pair of instruments.

X Q. 67. When you received an order to complete other instruments they were not made by or according to that set of gauges, but both the internal and external construction was changed, was it not?

A. There were changes of detail, external and internal.

X Q. 68. Who directed these changes to be made and when?

A. The Gold and Stock Telegraph Company directed the changes to be made. They were settled upon on consultation between the mechanic and electrician at the service of that company. These included Mr. George M. Phelps, Mr. George B. Scott of New York, and the foreman and experts of the Western Electric Company. All of the changes

were, I think, assented to by Mr. Edison before they were finally adopted. These changes of detail were made from the last of June to the fore part of July in 1878.

X Q. 69. Did you receive a sample instrument from New York containing suggested changes to be made in the instruments manufactured by your company ?

A. I am not aware that we did.

X Q. 70. Who were the officers and directors of the Western Electric Manufacturing Company during the summer of 1878 ?

A. Anson Stager was president ; S. G. Lynch was vice-president ; I was secretary. We were members of the board of directors ; I do not now recall the names of the other directors ; I presume Thomas Orton was one.

X Q. 71. Did the Western Union Telegraph Company control the majority of the stock of the Western Electric Manufacturing Company at that time ?

A. The Western Union Telegraph Company owned at that time about one-third of the stock of our company ; it never owned a majority of the stock.

X Q. 72. Same question as to the Gold and Stock Telegraph Company.

A. My impression is that the Western Union Telegraph Company owned at this time a majority of the Gold and Stock Company.

X Q. 73. Did the Gold and Stock Company have any interest in the Western Electric Company at that time ?

A. It had not then or at any other time.

X Q. 74. Who was the George H. Bliss to whom you have referred, and what connection had he with your company, the Western Union, Gold and Stock, or any of the other companies referred to in your examination ?

A. Mr. Bliss had been, previously to this time, a director and an employé of our company. At this time my recollection is that he was devoting himself to the sale of Edison's electric pen, which was manufactured by us. He was a friend of Mr. Edison, but was not connected with the Gold and Stock or Western Union Companies.

X Q. 75. What connection, if any, did the Samuel S. White referred to in your testimony have with the several companies named ?

A. The only connection I think he had with any of these companies was as a stockholder and director of the American Speaking Telephone Company. The American Speaking Telephone Company and the Gold and Stock Telegraph Company were interested together in the business carried on by the Gold and Stock Telegraph Company.

X Q. 76. What connection did the M. G. Kellogg referred to in your testimony have to any of the companies named ?

A. He was employed by the Western Electric Company as accountant and electrical expert ; he had no other connection with any of these companies. I notice that Mr. Walker's letter to him of July 8th, 1878,

designates him as superintendent. That indicates that he was at this time superintendent of our factory. Until noticing his title from this letter just at this moment I had supposed that his taking charge of the factory was at a later date than this.

X Q. 77. Why, if, as you state, you had made 8 of the Edison instruments, did you in your letter to S. S. White of June 18, 1878, refer to but a half dozen?

A. Our official order had been for 6 to be made satisfactory to Mr. Edison. The two extra ones we made on our own responsibility, and as Dr. White had undoubtedly known of the fact that we had undertaken to make 6 I mentioned the half a dozen instead of 8 to avoid the necessity of explaining that the 8 was the same lot as the 6 that had been ordered.

X Q. 78. When and from whom did you receive information that the instruments were satisfactory to Mr. Edison?

A. I have not at hand anything to show positively that we had such information prior to Mr. Walker's letter of July 8th to Mr. Kellogg, confirming the order for 250 transmitters. Mr. Kellogg had visited New York, and, I think, without doubt, Menlo Park, in the meantime—that is, after the first instruments had been completed and before the order for the larger quantity had been renewed. We undoubtedly learned from him that the instruments were satisfactory to Mr. Edison. On page 748 of the letter-book referred to in this examination I find the following letter in letter-press copy:

CHICAGO, *July 1, 1878.*

THOMAS A. EDISON,
Menlo Park, N. J.:

DEAR SIR: Our Mr. Kellogg is expecting to be at Menlo Park Friday morning of this week to see you in particular about the new telephones. Please have a new one there to explain to him. He will then arrange with Mr. Walker about making them.

Our friends here are getting crazy to get them to use.

Yours truly,

E. M. BARTON, *Sec'y.*

This letter and my recollection of the circumstances are the basis of my impression that Mr. Kellogg had been at Menlo Park.

X Q. 79. Did you not understand when you first saw the letter of July 8, 1878, from Walker to Kellogg, that some changes were to be made in the instrument before proceeding with the order for 250?

A. I did so understand as soon as I saw the letter.

X Q. 80. The changes were determined upon after the receipt of that letter, were they not?

A. I think at just about the time of the receipt of the letter.

X Q. 81. When the first 8 instruments were made were there more than 7 duplicates made of each of the parts?

A. I am not aware that more than 8 sets of parts were made.

X Q. 82. Who determined the numbering of the instruments?

A. The Gold and Stock Telegraph Company.

X Q. 83. Why, if you know, was the series of even numbers adopted for the instruments made by your company?

A. This system of numbering in series was adopted to keep different kinds of telephones separate with respect to their numbers from other kinds. We were making telephones in Chicago, and the Gold and Stock Telegraph Company was having other kinds made in New York, and the intention was to have them numbered in such a way that a given number would at once show the kind of instrument and where it had been made.

X Q. 84. At the time you began to make the 8 sample instruments of the Edison type was the carbon transmitter, so called, in use in this part of the country? In other words, was it regarded by yourself as an essentially new style of instrument, better adapted to compete with the magneto in use by the Bell company than any other instrument of its kind?

A. The Edison instrument previous to that time had not been in public use in this part of the country. I had myself seen it in use at Menlo Park, and regarded it as better adapted to general use than any other instrument that I had known of that kind. We knew the instrument well by hearsay and by exhibitions that had been made in the East. It was a novelty in this part of the country.

Cross-examination closed.

Redirect examination by Mr. DOWELL:

R D. Q. 85. Did your company ever manufacture more than the original 8 or possibly 10 telephones like Batchelor's Exhibit No. 1, referred to in your testimony?

(Objected to as leading and not proper redirect examination.)

A. It did not.

R D. Q. 86. About how many telephones of that type have you ever seen having the peculiar adjustment shown in that instrument?

A. The two that Mr. Edison sent us and the 8 which we made are the only ones that I remember having seen.

R D. Q. 87. Have you any correspondence relating to the matter inquired of in the 64th X Q.?

A. I have an original letter from Mr. Edison as follows:

MENLO PARK, N. J., June 21, 1878.

E. M. BARTON, Esq.,

Chicago:

DEAR SIR: Messrs. Partrick & Carter of Phila. are making 25 telephones complete for me. Will send you one of the very first received from them. They will be "bang-up," and I think Mr. Walker will order a hundred more.

Very truly,

T. A. EDISON.
G.

I have an original telegram from George Walker, vice-president, as follows :

NEW YORK, 19th. (Received at Chicago 7, 19, 1878.)

E. M. BARTON :

Phelps offers to make 100 Edison carbon transmitters without induction-coils or any other appendages for \$3.00 each, like the sample furnished you by him. We will give you the order at the same price. The instruments to be furnished to the A. D. T. Company at Chicago, if you accept. Answer.

GEORGE WALKER,
V. Prest.

R D. Q. 88. When did you receive the letter and telegram which you have just read into the record ?

A. They were undoubtedly received at about the time of their dates.

R D. Q. 89. State the character of the changes referred to in answer to the 67th and 68th X Q's.

A. In the later instruments the adjustment of the carbon button was made with a screw-driver. In the first 8 instruments it was effected with a peculiar fork which fitted into a couple of holes. Unless one had the fork with the prongs at the right distance apart and of the right size the adjustment could not be made. The contact between the parts on the inside was made differently, and the mouth-piece of the later instruments was not so deep. It was Mr. Edison's idea that the adjustment should not be touched except by those who were provided with the fork, and that the difficulty placed in the way of unauthorized adjustment would prevent the carbon button from being damaged.

Redirect examination closed.

Recross-examination :

R X Q. 90. At whose request do you appear as a witness in this case ?

A. At the request of Mr. Dowell. I may say, however, that I learned from Mr. W. W. Swan that Mr. Dowell was likely to be here to obtain my testimony.

(The notary is requested to mark the several original letters and letter-press copies, from the book produced by this witness, with his initials, and also the instruments Nos. 5008 and 5010, and the instrument marked "Not to be taken down" referred to in this witness's testimony, for identification, so that if required by the Commissioner of Patents the said letters and instruments may be produced at the hearing in accordance with the agreement of this witness.)

ENOS M. BARTON.

Subscribed and sworn to before me this 24th day of July, A. D. 1890.

[SEAL.]

WILLIAM J. STAPLETON,
Notary Public.

CHICAGO, *July 24th*, 1890.

Parties met pursuant to agreement. Counsel present as before.

DEPOSITION OF CHARLES E. SCRIBNER.

CHARLES E. SCRIBNER, a witness on behalf of the Patent Office, being first duly sworn, does depose and say, in answer to interrogatories proposed by Mr. Dowell, as follows:

Direct examination :

Q. 1. Please state your name, age, residence, and occupation.

A. Charles E. Scribner; age, 32; residence, Chicago; occupation, inventor; in the employment of the Western Electric Company.

Q. 2. What was your occupation in 1878?

A. I was an inspector in the employment of the Western Electric Manufacturing Company.

*Q. 3. Look at the instrument now shown you and, if you recognize it, state what it is.

A. The instrument is an Edison transmitter.

(The instrument shown the witness is in evidence as "Edison's Exhibit No. 1.")

Q. 4. When and under what circumstances did you first see an Edison transmitter like the one shown you, and what was done with it?

A. In the early summer of 1878 two instruments exactly like the exhibit were handed me by Mr. E. M. Barton of the company with which I was then employed. Mr. Barton requested me to try the instruments, and, after trying them, to examine one of them by taking it apart, the other instrument to be retained as he gave it to me—that is, not to be taken down. I tested the two instruments upon a line, both ends of which were within the building, and shortly after tested the instruments upon a line extending to the Western Union building, and over a line which was connected with our Western Union line at the Western Union building, this latter line extending to the supply department of the Western Union company, near 16th street on State street, and conversation was had over the two connected lines with people at the supply department, they reporting that they could hear with perfect ease, although the line was a very noisy one, being full of induction from other Western Union lines. These two connected lines were regular lines, usually employed for telegraphing and transmitting messages by means of Gray printers. After having completed the tests with the instruments, one of them was marked or tagged "Not to be taken down," and the other was taken apart and examined, and turned over to the shop as a model from which to make a set of instruments.

Q. 5. State if you recognize the instrument now shown you and your recollection concerning the same.

(Objection is here entered to all testimony respecting instruments or papers here present and referred to by or shown to the witness and not

regularly introduced in evidence. By consent this objection is to be deemed made to all testimony given by the witness, with the same effect as though the objections were entered to each question and answer.)

A. I do recognize the instrument as one of the two handed me by Mr. Barton, as stated in my previous answer. It is the one which was marked "Not to be taken down." My recollection of the history of the instrument is that it remained in my possession without having been taken down until about the year 1884, when it passed out of my possession, and I have not seen it since that time until the present.

Q. 6. Do you notice any difference between the two instruments referred to in your answers and the instruments handed you by Mr. Barton, as you have stated?

A. No, none whatever; they are identical in all respects with those handed me by Mr. Barton, and with those referred to in my previous answers.

Q. 7. Look at the instrument now shown you, which is in evidence as "Batchelor's Exhibit No. 1," and state when and where you first saw such an instrument.

A. I recognize this instrument as being one of a lot of eight, I believe, manufactured in June, 1878, by the Western Electric Manufacturing Company. I first saw it at the factory where it was made.

Q. 8. Look at the instruments now shown you and state if you recognize them.

A. These are instruments numbered 5008 and 5010. They are of the same lot of eight mentioned in my previous answer.

Q. 9. What was done with the lot of eight instruments referred to in your previous answers, if you know, and what use was made of any of them?

A. Two of the instruments were sent to Mr. Edison's place, Menlo Park; the other six were retained at the Western Electric Manufacturing Company's office to be distributed among the offices using telephones, to be put into use. One of such instruments was set up and used at the factory of the Western Electric Manufacturing Company, and one, I recollect, was put into service in the offices of the Western Union Telegraph Company, where it took the place of other means of communication between those offices and the Western Electric Manufacturing Company's offices and the offices of the Western Union supply department.

Q. 10. When were the instruments used as stated in your previous answer?

A. Immediately upon their completion, and thereafter for a considerable length of time—some of them until they were replaced by instruments of later manufacture. As early as the latter part of June and the 1st of July, 1878, the instruments were first put into service.

Q. 11. Please look at the instrument now shown you, which has

stamped in the nickel-plated rim, below the projecting edge of the rubber mouth-piece, "F. 5114," and state if you recognize it, and, if so, what you know of the same.

A. This instrument is one of a lot of 250 which were made shortly after the completion of the eight instruments mentioned in my previous answer. This instrument I recognize by the number, and by the small adjusting-screw for the adjustment of the carbon button, as being of that first lot of 250. It was made by the Western Electric Manufacturing Company.

Q. 12. By whom and when was the lot of 250 instruments referred to in your last answer made?

A. They were made by the Western Electric Manufacturing Company, I suppose, during July or August, 1878. I could not undertake to give the date when they were finished.

Q. 13. Look at the paper now shown you, which is marked in evidence "Bennett's Exhibit, Summers' Receipt," and, if you recognize it, state your recollection concerning the same.

A. I recognize the paper as being a form of receipt employed at the time of its date, to wit, 6th month, 7th day, of 1878, by the Gold and Stock Telegraph Company and the Western Electric Manufacturing Company, to keep track of instruments sent out by us. The receipt indicates that carbon telephone No. 5010 was sent by me to C. H. Summers. I undoubtedly took the transmitter and delivered it to Colonel Summers, and have no doubt that I set the instrument up and put it into operation.

(The instruments referred to by this witness in his testimony and not already in evidence are the same instruments as those referred to in the deposition of Enos M. Barton, a previous witness in this case.)

Direct examination closed.

Cross-examination:

X Q. 14. You state in answer to question 4 that two instruments exactly like "Edison's Exhibit No. 1" were handed you by E. M. Barton early in the summer of 1878. How do you know they were exactly alike?

A. Because the instruments shown me and the instruments handed me by Mr. Barton were of a slightly different form from any that I have ever seen since, excepting the eight referred to in my direct examination, and it is by the peculiar form, and the arrangement of the parts for the adjustment of the transmitter, and the shape of the mouth-piece, and the absence of nickel-plating, which was placed on the eight, that I recognize the exhibit as being identical with those handed me by Mr. Barton.

X Q. 15. Then your evidence is based upon the external appearance of the instruments, is it not?

A. My evidence as to the exhibit "Edison's Exhibit No. 1" is based entirely upon the external appearance, but that relating to the instru-

ment marked "Not to be taken down" and my recollection of that instrument are determined by the metal tag soldered to the instrument, bearing the words quoted, and placed there at my direction.

X Q. 16. Did you examine the interior construction of the instrument last referred to?

A. I did not.

X Q. 17. How are you able to state, then, that the two instruments are exactly alike, if you don't know what the internal arrangements are?

A. The internal arrangement of the mate to the instrument marked "Not to be taken down" I became familiar with, having seen it apart. The peculiar construction of that instrument, which related to the adjustment of the carbon button, consisted in three screws, each independently adjustable with relation to each other, the ends of the three screws forming a seat for the cup containing the carbon button to rest upon. A cap-screw with two holes, to be removed by a spanner, was provided in both of the instruments. In the instrument which was dismounted this cap-screw served to hold the cup containing the carbon button upon its seat of three screws. One of the three screws for such adjustment was visible through the hole in the cap-screw, and I have no doubt whatever that the instrument is precisely the same as that marked "Edison's Exhibit No. 1," as its internal arrangement is fairly revealed to me by the adjusting-screw visible through the hole in the cap-screw.

X Q. 18. Then it is a fact that, aside from the external features and the glimpse of a supposed adjusting-screw, your knowledge as to the internal construction of the instrument with the brass plate is wholly conjectural, and not based upon an inspection of the interior. Am I correct?

A. The test which I made with the two instruments indicated to me that they both contained carbon buttons, diaphragms, and electrodes, and I am certain that the instruments were alike with respect to being equipped with these necessary parts. I never saw the interior of the instrument with the brass plate, and only know, as I have stated, that it is a carbon telephone, and that I suppose it to be exactly like the one which I took down.

X Q. 19. At the time of making the test referred to what experience had you had in the use of carbon transmitters, such as would enable you to determine by the operation of that instrument that it contained carbon?

A. The instruments were the first that I had ever seen or tried. I had had experience with magneto instruments used as transmitters, and I recognized upon trying the instruments containing the carbon buttons a new quality of tone, something different from anything I had ever heard before in a telephone. This peculiarity of tone and of articulation, different from that obtained from a magneto, I found in both instruments, and the operation of the instrument marked "Not to be

taken down " was such that it satisfied me that it was exactly like the mate which I took apart. I could not then, nor can I now, conceive of any different arrangement which might be contained in the same case.

X Q. 20. You have stated that the brass plate was put on that instrument by your direction. When was this done?

A. At or about the time that I received the instrument.

X Q. 21. Were the eight instruments constituting the first lot made by the Western Electric Manufacturing Company all complete before they were sent out?

A. Those which were retained at the factory were completed before they were sent out. I could not say as to the two which were sent to Mr. Edison. I suppose they were like the other six, unless they were sent without having been provided with carbon buttons.

X Q. 22. Were any of the six instruments retained in Chicago used as test instruments for any purpose?

A. I do not know of any such use that was made of the six as test instruments. I understand you to mean by "test instruments" an instrument used by which to compare other instruments. A standard or test instrument was adopted and used at a later date for the purpose of comparing new instruments manufactured by our company, the test being listened to by an employé of the Western Union Telegraph Company, the test determining whether the instrument would be acceptable to them or not. Such a use of any one of the six instruments was never made to my knowledge, the six instruments being put into service at different points, and especially on lines where there was great induction, where the ordinary magneto instrument could not be successfully used because of the noise.

X Q. 23. At whose request or direction do you appear as a witness in this case?

A. At the request of Mr. Dowell. Mr. Barton called my attention to the proceedings.

Cross-examination closed.

Redirect examination :

R D. Q. 24. Please examine the interior of "Edison's Exhibit No. 1," which has been shown you, and concerning which you have testified, and state how it compares with the first instrument of that type handed you by Mr. Barton, as you have stated.

A. It is the same as the instruments handed me by Mr. Barton and referred to in my cross-answer 17.

R D. Q. 25. Give the date, if you recollect, of the standard instrument referred to in your cross-answer 22, which you say was used for comparison with new instruments.

A. It must have been in August or September, 1878, when this instrument was adopted. A line was built at that time over which these

instruments as they were manufactured and completed by us were to be tested. Most of the tests were made by Mr. Charles H. Wilson and myself over this line.

CHARLES E. SCRIBNER.

Subscribed and sworn to before me this 24th day of July, A. D. 1890.

[SEAL.]

WILLIAM J. STAPLETON,

Notary Public.

STATE OF ILLINOIS,

County of Cook, ss :

I, William J. Stapleton, a notary public within and for the county of Cook and State of Illinois, do hereby certify that the foregoing depositions of Elisha W. Bennett, Charles H. Summers, John J. S. Wilson, Charles H. Wilson, Enos M. Barton, and Charles E. Scribner were taken on behalf of the Patent Office, in pursuance of the notice annexed to the deposition of De Lancey H. Louderback, a copy of which notice is hereto annexed, before me, at the office of Butterworth, Hall & Brown, in the city of Chicago, in said county, on the 21st, 22d, 23d, and 24th days of July, 1890; that each of said witnesses was by me duly sworn before the commencement of his testimony; that the testimony of each of said witnesses was written out by Ida F. Parsons and Lizzie H. Wilson in my presence; that the opposing party, Daniel Drawbaugh, was present by his attorney, Joseph B. Church, during the taking of said testimony; that said testimony was taken at the office of Butterworth, Hall & Brown, 204 Dearborn street, Chicago, Illinois, and was commenced at 11.30 o'clock a. m. on the 21st day of July, 1890, was continued pursuant to adjournment on the 22d, 23d, and 24th days of said month, and was concluded on the 24th day of the same month; that I am not connected by blood or marriage with either of said parties, nor interested directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed my seal of office at Chicago, in said county, this 25th day of July, 1890.

[SEAL.]

WILLIAM J. STAPLETON,

Notary Public.

I also do hereby certify that I have marked with my initials each of the several papers and instruments referred to in the testimony of the witnesses Elisha W. Bennett, Enos M. Barton, and Charles E. Scribner, for purposes of identification, in accordance with the request at the close of the examination of the witness Enos M. Barton.

In testimony whereof I have hereunto set my hand and affixed my seal of office at Chicago, in said county, this 25th day of July, 1890.

[SEAL.]

WILLIAM J. STAPLETON,

Notary Public.

In re Drawbaugh. Public use proceeding. Chandler's Exhibit, Scott-Chandler, 1878, correspondence No. 1. Feb. 1, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
SUPERINTENDENT'S OFFICE, WESTERN UNION BUILDING,
New York, June 29, 1878.

Prof. CHANDLER,

51 East 54th St., City:

DEAR SIR: I have submitted your request to Vice-pres't Walker, who instructs me to communicate to you the following:

We will sell the telephones you wish at the prices named below, for the purpose of illustrating your lectures:

2 Phelps hand telephones	\$24. 00
2 Gray's " "	24. 00
2 Edison carbon transmitters with induct'n coils in box, complete.....	34. 00

The Edison transmitters are used with either Phelps' or Gray's telephones as receivers, as this gives the best results.

Yours respectfully,

GEO. B. SCOTT, Supt.
K.

In re Drawbaugh. Pub. use proceeding. Chandler's Exhibit, Scott-Chandler, 1878, correspondence No. 2. Feb. 1, 1890. C. E. D., N. P.
No. 114]

New York, July 5, 1878.

Tradesmen's National Bank, No. 291 Broadway. Pay to the order of George B. Scott eighty-two $\frac{00}{100}$ dollars.

\$82.

[U. S. int. rev. 2 ct. stamp.]

C. F. CHANDLER.

(Indorsement on back :) Geo. B. Scott. Deposited in the Bank of New York, National Banking Association, to credit of Gold & Stock Tel. Co. R. H. Rochester, treasurer.

In re Drawbaugh. Public use proceedings. Chandler's Exhibit, Scott-Chandler, 1878, correspondence No. 3. Feb. 1, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
SUPERINTENDENT'S OFFICE, WESTERN UNION BUILDING,
New York, July 6th, 1878.

CHARLES F. CHANDLER, Esq.,

Health Department, 301 Mott St., N. Y.:

DEAR SIR: Yours of July 5th, inclosing check \$82, is received. I regret that I cannot send all of the telephones immediately. The

Phelps hand telephones will be sent to you on Monday; the others as soon as we get them from manufactory, which will probably be a few days.

Yours respectfully,

GEO. B. SCOTT, *Supt.*

In re Drawbaugh. Public use proceeding. Chandler's Exhibit, Scott-Chandler, 1878, correspondence No. 4. Feb. 1, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
SUPERINTENDENT'S OFFICE, WESTERN UNION BUILDING,
New York, July 23, 1878.

Prof. CHANDLER,

School of Mines, S. W. corner 4th ave. and 50th st.:

DEAR SIR: I send you this day by bearer small box containing two Gray's hand telephones. The Edison transmitters will be sent you as soon as we receive a supply.

Yours respectfully,

GEO. B. SCOTT, *Supt.*
K.

In re Drawbaugh. Public use proceeding. Chandler's Exhibit, Scott-Chandler, 1878, correspondence No. 5. Feb. 1, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
SUPERINTENDENT'S OFFICE, WESTERN UNION BUILDING,
New York, July 27th, 1878.

Prof. CHANDLER,

Pres't Board of Health:

DEAR SIR: I have much pleasure in sending you a pair of Edison carbon transmitters with induction-coils for same. They are of Edison's own make.

This completes the lot for which you sent me a check (\$82.00).

I trust they will all give you satisfaction. Any information you wish concerning them we will be pleased to give at any time.

Yours resp'y,

GEO. B. SCOTT, *Supt.*

In re Drawbaugh. Public use proceeding. Chandler's Ex., Scott-Chandler, 1878, correspondence No. 6. Feb. 1, 1890. C. E. D., N. P.

NEW YORK, *Aug'st 2d*, 1878.

Prof. Chandler, Pres't Board of Health, N. Y., to The Gold and Stock Telegraph Co., Dr.

For 2 Phelps hand telephones, at \$12	\$24. 00
2 Gray's bipolar telephones, at \$12	24. 00
2 Edison carbon transmitters with induction-coils in box, at \$17.....	34. 00
	\$82. 00

Received payment for the company.

Gold and Stock Telegraph Co., New York, Aug. 2, 1878.

S. M. TAYLOR.

Please draw check to order of the company.

In re Drawbaugh. Public use proceeding. Chandler's Ex. No. 9.
Feb. 1, 1890. C. E. D., N. P.

[James C. Wood, private telegraph lines or speaking telephones. Gold and Stock Telegraph Co., No. 197 Broadway, Western Union Building, New York.]

In reference to telephone service please make an appointment to suit your convenience between 10.30 a. m. and 4 p. m., as I live out of the city.

J. C. W.

In re Drawbaugh. Public use proceeding. Chandler's Ex. No. 10. Feb. 1, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
WESTERN UNION BUILDING,
New York, July 9th, 1878.

CHARLES F. CHANDLER,

President Comm'rs Health Department:

D'R SIR: Yours of 5th inst. duly received. There will be no difficulty in speaking to any one at any station on the line.

It will be convenient to number each station; then when you wish to communicate repeat the number of the station until you get an answer. All other stations can hear your call; as it is not for either of them they will not notice it.

I send herewith an agreement for the building and purchase of the

line ; also a contract for the use and maintenance of the telephones. I have left the term blank ; you can make it for one or more years.

I would have come up to see you yesterday, but have been sick two days.

Respectfully yours,

JAMES C. WOOD,
For G. AND S. TEL. Co.

In re Drawbaugh. Public use proceeding. Chandler's Ex. No. 11. Feb. 1, 1890. C. E. D., N. P.

Mr. Wood, sup't of telegraphs, called here yesterday and said it would be well for the board to pass a resolution authorizing the construction of the line, and directing the president to make application.

In re Drawbaugh. Public use proceeding. Chandler's Ex. No. 12. Feb. 1, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
WESTERN UNION BUILDING,
New York, Oct. 4, 1878.

HEALTH DEP'T:

GENTLEMEN: Our Edison telephones are no longer manufactured with flexible cords, but with fixed arms, such as you have, the latter being almost universally preferred.

As requested by you, we will supply at the earliest opportunity back-stroke sounders at each of the offices you mentioned.

Yours resp'y,

H. R. BUTLER,
Ass't Sec'y.

In re Drawbaugh. Public use proceeding. Chandler's Ex. No. 13. Feb. 1, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
SUPERINTENDENT'S OFFICE, WESTERN UNION BUILDING,
New York, Aug. 16th, 1878.

Prof. C. F. CHANDLER,
301 Mott St. :

DEAR SIR: I am in receipt of your memorandum to our inspector, Mr. Knudson, complaining that the sounder-calls on our telephones are not loud enough. Vice-president Prescott has instructed me to have some made with bell-calls instead of sounders. As soon as they are

made we will replace your present sets by those having bells, which, we trust, will give you full satisfaction.

Yours respectfully,

GEO. B. SCOTT, *Supt.*
P.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 4. Feb. 3, 1890. C. E. D., N. P.

[From the laboratory of T. A. Edison, Menlo Park, N. J., U. S. A.]

MAY 18.

PARTRICK & CARTER:

Just as soon as I can get gauges made I am going to give you an order for telephones. Will telegraph you when Partrick should come here.

Yours in haste,

T. A. EDISON.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 5. Feb. 3, 1890. C. E. D., N. P.

[Telegram.]

MENLO PARK, N. J., 10, 1878. (Received at 5 p. m., June 10.)
To JAS. PARTRICK,
38 So. 4:
Telephone model ready; come over in the morning.

EDISON.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 6. Feb. 3, 1890. C. E. D., N. P.

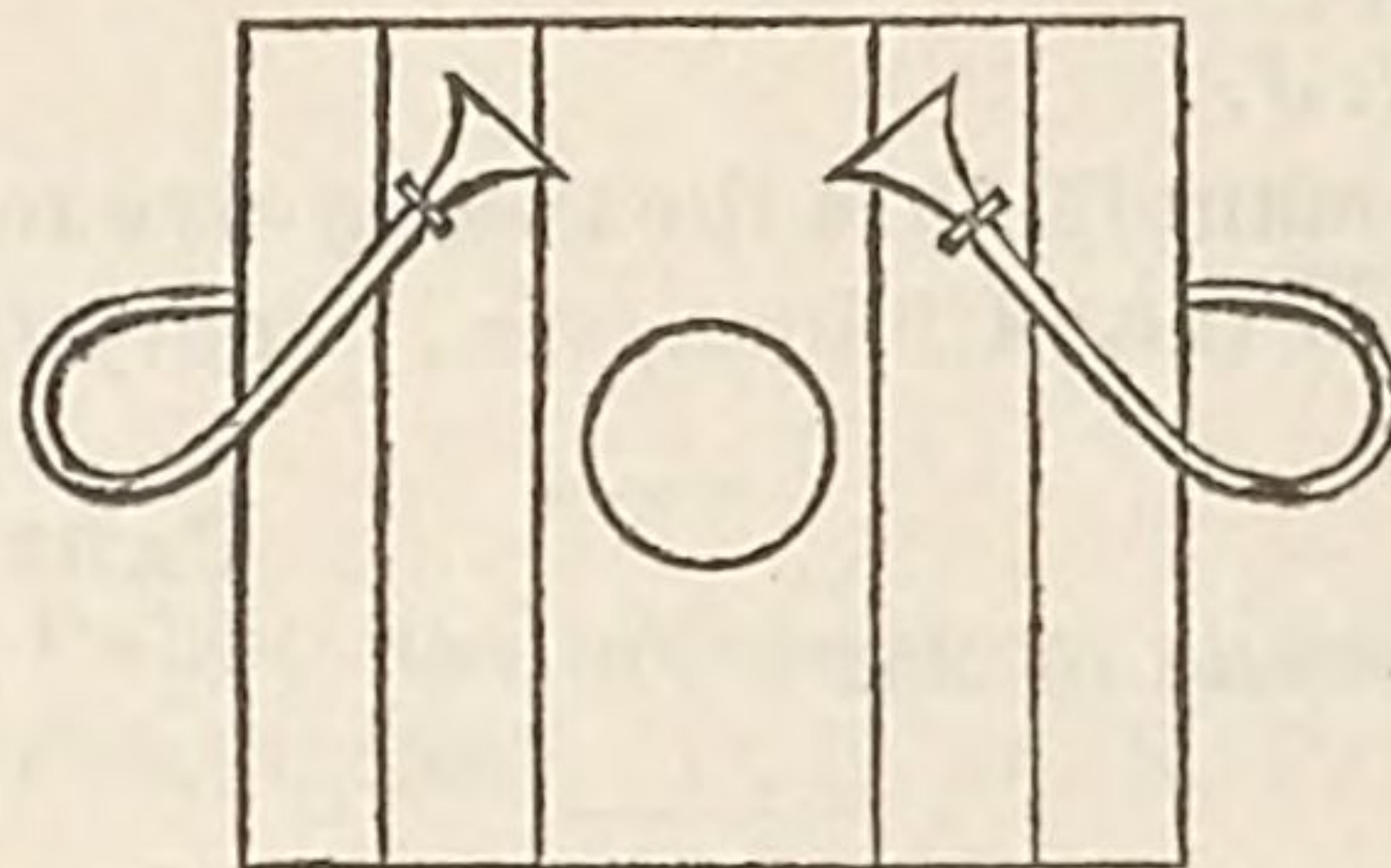
LABORATORY OF THOMAS A. EDISON,
Menlo Park, N. J., July 12, 1878.

Messrs. PARTRICK & CARTER,
Philadelphia:

TELEPHONE.

1. Box finished like the Phelps instruments.
2. Transmitter japanned and screws blued and lacquered.
3. Transmitter-top to have "Edison's Carbon Telephone" in raised letters of cast-iron round base of mouth-piece.

4. Magnet to be made $1\frac{1}{2}$ wide by $\frac{1}{2}$ inch thick, and when magnetized should lift six (6) pounds.
5. Spools to be 50 ohms each.
6. Ear-pieces of rubber, with flexible tube long enough to reach to the ear; the tube to be thin, but covered with silk (red or green).
7. The ear-pieces must have a hook to hook onto the corner-pieces.



8. Make ear-pieces; I think suitable ones can be bought; must come to the ears well and not be too short.
 9. Larger size bind-post.
 10. Coil must be wound with four layers of No. (17) seventeen silk-covered wire for primary and (9) nine layers of No. (32) thirty-two silk-covered wire with a sheet of paraffined paper between each layer.
- Resistance of primary, 34 ohms.
Resistance of secondary, 150 ohms.

CHAS. BATCHELOR,
For THOS. A. EDISON.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 7. Feb 3, 1890. C. E. D., N. P.

MENLO PARK, N. J., *June 14th*, 1878.

Messrs. PARTRICK & CARTER,

Phila. :

GENTLEMEN: Your favor of the 13th duly rec'd. I cannot pay over twenty (20) dollars. If this is not satisfactory please return samples, etc.

Very truly,

T. A. EDISON.
G.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 8. Feb. 3, 1890. C. E. D., N. P.

MENLO PARK, N. J., *June 20*, 1878.

Messrs. PARTRICK & CARTER,

Phila. :

GENTLEMEN: Please name date when we may expect the 25 telephones. The Gold and Stock Co. are getting hungry for them, and should they be completed soon the result may be a heavy order for you.

Very truly,

T. A. EDISON.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 9. Feb. 3, 1890. C. E. D., N. P.

[Partrick & Carter, practical telegraphers and electricians, manufacturers of and dealers in telegraph and electrical instruments and supplies, No. 38 South Fourth street; manufactory, 614, 616, and 618 Filbert street.]

PHILADELPHIA, *June 15, 1878.*

TH. A. EDISON, Esq.,
Menlo Park, N. J.:

DR. SIR: We will manufacture the twenty-five telephones at the price stated in your letter of the 14th inst., viz., twenty (20) dollars each.

Yours truly,

PARTRICK & CARTER.

O. K. Make 50 instead of 25.

In re Drawbaugh. Public use proceedings. Edison's Exhibit No. 10. Feb. 3, 1890. C. E. D., N. P.

[Partrick & Carter, practical telegraphers and electricians, manufacturers of and dealers in telegraphic and electrical instruments and supplies, No. 38 South Fourth street; manufactory, 614, 616, and 618 Filbert street.]

PHILADELPHIA, *June 13, 1878.*

THOS. A. EDISON, Esq.,
Menlo Park, N. J.:

DR. SIR: After giving your sample telephone specifications, etc., a thorough examination, we find that with the additions suggested by you they will cost you twenty-two (\$22) dollars each. Should this estimate be out of proportion to your ideas of cost, please notify us and we will return sample, etc. In case we are in error detrimental to ourselves we rely upon you to give us the benefit of your friendship, as you well know it is almost impossible to accurately estimate on work of that description.

Yours truly,

PARTRICK & CARTER.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 11. Feb. 3, 1890. C. E. D., N. P.

[Partrick & Carter, practical telegraphers and electricians, manufacturers of and dealers in telegraph and electrical instruments and supplies, No. 38 South Fourth street; manufactory, 614, 616, and 618 Filbert street.]

PHILADELPHIA, *June 21st, 1878.*

T. A. EDISON, Esq.,
Menlo Park, N. J.:

DR. SIR: Yours 20th to h'nd. We will try our best to get the telephones out by the first week in July, or sooner, if possible. Can you give us any information in regard to the flexible tube? We are having trouble in getting it. Do you know who keeps it in stock?

Yours truly,

PARTRICK & CARTER.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 12. Feb. 3, 1890. C. E. D., N. P.

PHILADELPHIA, *July* 19, 1878.

Thos. A. Edison, Menlo Park, N. J., to Partrick & Carter, Dr.

25 telephones, \$20.00	\$500.00
6 boxes, 75 ea.	4.50
	\$504.50

Received payment.

PARTRICK & CARTER,
C. M. W.

In re Drawbaugh. Public use proceeding. Edison's Exhibit No. 13. Feb. 3, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
WESTERN UNION BUILDING,
New York, June 14, 1878.

THOS. A. EDISON, Esq., *Menlo Park*:

DEAR SIR: We shall be very glad to take the 25 telephones ordered by you from Partrick & Carter, and the sooner we get them the better, if they are satisfactory to you. I have been daily expecting to receive the six which you promised me for Tuesday last. Perhaps it has slipped your memory. I am very glad to hear that Mr. Phelps has rec'd the 100 carbon buttons.

Yours truly,

GEORGE WALKER, *V. P.*

Will let you have 1st 15.

In re Drawbaugh. Public use proceedings. Edison's Exhibit No. 14. Feb. 3, 1890. C. E. D., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
WESTERN UNION BUILDING,
New York, May 21, 1878.

THOS. A. EDISON, Esq.:

DEAR SIR: At request of Mr. Barton of the Western Electric Co., I have to ask you to furnish to him for estimates—

- 1 set of your telephonic apparatus, viz:
- 1 transmitter set up and adjusted.
- 1 do. in parts.
- 1 set gauges for constructing do.
- 1 induction-coil with specifications for same.
- 1 receiving telephone.
- 2 doz. carbon buttons.

Yours truly,

GEORGE WALKER.

The W. E. Co. is to pay you cost of above.

7083 TEL—18

In re Drawbaugh. Public use proceedings. Edison's Exhibit No. 15.
Feb. 3, 1890. C. E. D., N. P.

OFFICE OF WESTERN ELECTRIC MANUFACTURING CO.,
220 to 232 Kinzie street, Chicago, June 11, 1878.

T. A. EDISON, Esq.,
Menlo Park, N. J.:

DEAR SIR: Mr. Bliss brought your two telephones. We had them working on one of the city wires here, where there was so much induction that nothing we had previously had could possibly be of any use. Both of your transmitters worked perfectly and easily, to the great satisfaction of all who heard them.

Before taking apart the one which was to be taken apart we adjusted it back and forth, so as to get the hang of the adjustment of the pressure on the carbons. Then we took it apart and put it together again, and made it work as well as before. After that we took it apart to use the pieces for patterns, and the carbon button accidentally got broken up. I wish you would send us a dozen or two of the carbon buttons, ready to put in, by first mail or express.

We expect to have the half dozen instruments done by Saturday of this week. We should like very much to see if we cannot put in the buttons, and thereby make sure that the instruments are made as they ought to be before sending them away.

Yours truly,

E. M. BARTON, *Sec'y.*

In re Drawbaugh. Public use proceedings. Edison's Exhibit No. 16.
Feb. 3, 1890. C. E. D., N. P.

OFFICE OF WESTERN ELECTRIC MANUFACTURING CO.,
220 to 232 Kinzie street, Chicago, June 18, 1878.

THOMAS A. EDISON, Esq.,
Menlo Park, N. J.:

DEAR SIR: I was in hopes to get some carbon buttons, so that we could make sure that these telephones of yours were right in the important parts before sending them away, but think it best to send you a couple of the telephones, with induction-coils, as they are.

When received I wish you would telegraph immediately whether they are substantially right, or whether they require important alterations.

I inclose a pencil memorandum giving a comparison of the way your telephones and ours correspond with the different gauges. When we make tools to make different parts with, I hope we shall be able to turn them out so that they will go together without there being any question as to perfect fits.

Your letter of instructions was not handed to us by Mr. Bliss until Thursday of last week, at which time all the parts were under way. We have since then made some patterns for the outside castings, with the words "Edison's Carbon Telephone" cast on the pieces, which we will have japanned and ready to send along in a few days.

Meantime we have nickel-plated these six, so as to get them done quickly. Japanning will be better when we get fairly to work, because nickel on iron will get rusty from handling.

Yours truly,

ENOS M. BARTON, *Sec'y.*

[Inclosure.]

P. S.—Your telephone still continues to work well. Its adjustment has not been changed.

We are strongly tempted to try to use its carbon button to test the new ones with.

In re Drawbaugh. Public use proceedings. Edison's Ex. No. 17. Feb. 3, 1890. C. E. D., N. P.

Gauge.	Fit of their sample.	Fit of one of our make.
Mouth-piece	Tight	Easy.
c depth	Fair	Fair.
c diam	Easy	Easy.
f depth	Good	Good.
Depth of carbon cup	Tight	Tight.
Diam. " "	Tight	Good.*
Free diaphragm diam	Tight	Tight.
Diam. of pt. sh	Tight	Tight.
Flange " " "	Very tight ..	Tight.
Depth " " "	Good	Good.
Hub " " "	Tight	Tight.
Screw-head diam	Good	Tight.
" " thickness	Loose	Good.
Diaphragm—thickness	Loose	Tight.
Diam. brass tube	Tight	Good.
Height glass "	Too short ..	Good.
Glass g—diam	Tight	Tight.
" " thickness	Good	Easy.

* See letter.

We have compared our induction-coils with yours, using your telephone for the purpose. We were unable to discover any difference. If you find anything about them to be wrong, let us know and we will alter accordingly.

In re Drawbaugh. Public use proceedings. Edison's Exhibit No. 18. Feb. 3, 1890. C. E. D., N. P.

JULY 4TH, '8.

E. W. KELLOGG, Esq.,
Hartford, Conn.:

DEAR SIR: Phonographs. Your favor of the 2d was duly received and contents noted. I am having a number of standard phonographs

made which will be superior to any which have yet been manufactured. They will be of first-class workmanship and complete in every respect. I will let you have three of them at one hundred dollars (\$100.00) each for shipment to China or Japan.

Telephone. I am also having manufactured a quantity of telephones. I will furnish them to you in lots of twenty at thirty-five dollars each (\$35.00). This price is for the instrument necessary for one station. I have the right for the carbon principle secured in all foreign countries where patents are obtainable. The Bell telephone is sold in Europe at seventy-five dollars (\$75.00) for each station. This will give you an idea as to what profit you can add. I have first-class parties representing and upholding my interests in Europe, and all infringements of the carbon principle will be litigated in the most short and decisive manner. Col. Geo. E. Gourand, No. 6 Lombard st., London, is my agent for Gt. Britain. Theo. Puskas represents my European interests. His address is care of Col. Geo. L. Beetle, No. 9 Rue de la Bour, Paris. The Hughes microphone (so called) is not an *articulating telephone*. He has simply discovered and blazoned forth that which I worked fully eighteen months to get rid of in order to make the carbon telephone a success. I will give you and Mr. R. M. Brown the exclusive right to represent my telephone interests in China and Japan, and will not knowingly sell instruments of that description for export to those countries, providing you purchase them in lots of twenty or more, and providing also that you take an active interest in the business and use every reasonable means to insure success. I have a number of applications for this territory, and had the telephone been in the shape it is at present six months ago it would now be found on the Chinese and Japanese market.

No doubt other telephones will be introduced in those countries, but the undoubted superiority in loudness and simplicity of the carbon telephone will push these others out if it is handled in the proper manner. If we conclude arrangements I will give you full details as regards the construction of telephone circuits. An expert in telegraph will not be necessary in putting up telephones and telephone circuits.

Very truly,

T. A. EDISON.
G.

In re Drawbaugh. Public use proceedings. Edison's Exhibit No. 19.
Feb. 3, 1890. C. E. D., N. P.

JULY 8, '8.

THEO. PUSKAS,

Paris :

DEAR SIR: I forgot to mention in my last letter to you, regarding the shipment of telephones to Col. Geo. E. Gourand, that I also sent two small boxes to him, one for Courd der Moncel, the other for La

Nature, Paris, with instructions for him to forward to you. Will you please look after them and see that they reach the proper addresses?

Very truly,

T. A. EDISON.
G.

In re Drawbaugh. Public use proceedings. Brewer's Ex. No. 1. Feb. 12, 1890. C. E. D., N. P.

THE WESTERN UNION TELEGRAPH CO.,
CENTRAL DIVISION,
Chicago, July 12th, 1878.

GEO. WALKER, Esq.,
V. Pres't:

DEAR SIR: Several customers here waiting for the "Edison" telephone, and are anxious to know what our terms are going to be before they order lines constructed. The C. & N. W. Ry. Co. want several, and want lines ready by time the Edison transmitters can be furnished, but cannot give the order until we can tell them what the cost will be. I understand the W. E. Mfg. Co. will soon have a supply of instruments ready. Can you give me terms upon which they can be placed?

V'y resp'y.

J. J. S. WILSON, *Supt.*

(Indorsement:) W. 645. J. J. S. Wilson. July 12th, 1878. Chicago & Nor. West'n R. wants prices for Edison telephones.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 2. Feb. 12, 1890. C. E. D., N. P.

THE WESTERN UNION TELEGRAPH CO. OF BALTIMORE CITY,
MANAGER'S OFFICE,
Baltimore, Md., July 9, 1878.

GEO. WALKER,
V. Pres't:

DEAR SIR: The water board did not act on the telephone matter last evening, but will probably visit high-service station to see the comb. set we have put up there for them this week. We have a pair on their line—one at high service and one at Lake Roland. Would not the Edison carbon phone be more suitable for this job, and what would be the expense of the Edison?

Yours truly,

N. DE BREE, *Agt.*

(Indorsement:) W. 626. N. de Bree. July 9th, 1878. Water board has not acted on the telephone matter.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 3.
Feb. 12, 1890. C. E. D., N. P.

MENLO PARK, N. J., *June 17, 1878.*

Hon. GEO. WALKER,
V. P., N. Y.:

DEAR SIR: Yours of the 14th was duly rec'd. I will send you 15 of the first telephones rec'd from Partrick & Carter. I have six here ready for you, which were made here. Am waiting for the japanners to send castings. Will endeavor to send these to you Tuesday next.

Very truly,

T. A. EDISON.
G.

(Indorsement :) W. 538. Thos. A. Edison. June 17th, 1878. Will send 15 of the Partrick & Carter telephones.

In re Drawbaugh. Public use proceedings. Brewer's Ex. No. 4. Feb. 12, 1890. C. E. D., N. P.

THE WESTERN UNION TELEGRAPH COMPANY,
CENTRAL DIVISION,
SUPERINTENDENT'S OFFICE, SECOND DISTRICT,
St. Louis, Mo., June 17, 1878.

GEO. WALKER, Esq.,
Vice-Prest. G. and S. Tel. Co., New York:

DEAR SIR: On or about June 3d you promised to send me some of the Edison telephones in about two weeks, to be used with our bridge wires. I hope you will not forget me.

I would like to have four sets to begin with.

Very resp'y,

R. C. CLOWRY,
Asst. Genl. Supt.

(Indorsement :) W. 551. R. C. Clowry. June 17th, 1878. Wants four sets of the Edison telephones.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 5.
Feb. 12, 1890. C. E. D., N. P.

OFFICE OF WESTERN ELECTRIC MANUFACTURING CO.,
220 to 232 Kinzie street, Chicago, June 13, 1878.

GEORGE WALKER,
Vice-President Gold and Stock Telegraph Co., New York:

DEAR SIR: We received last Saturday the sample Edison transmitting telephones, and have the work on a half a dozen of them now well started.

We are in hopes to have them completed by Saturday of this week.

Yours truly,

ENOS M. BARTON, *Sec'y.*

(Indorsement:) W. 537. E. M. Barton. June 13, 1878. Sample Edison transmitters received.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 6.
Feb. 12, 1890. C. E. D., N. P.

MENLO PARK, N. J., *June 12th*, 1878.

Hon. GEORGE WALKER, N. Y.:

DEAR SIR: I have given Partrick & Carter of Phila. an order for 25 telephones for my own use. If they prove satisfactory and you wish to have them, I will turn them over to you. Mr. Batchelor goes to N. Y. to day with 100 carbon disks for Mr. Phelps.

Very truly,

T. A. EDISON.
G.

(Indorsement:) W. 523. Thos. A. Edison. June 12, 1878. Has ordered 25 telephones from Partrick & Carter, and gives G. and S. Co. refusal of them.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 7.
Feb. 12, 1890. C. E. D., N. P.

OFFICE OF WESTERN ELECTRIC MANUFACTURING CO.,
220 to 232 Kinzie street, Chicago, *June 5*, 1878.

GEORGE WALKER,

Vice-President Gold and Stock Telegraph Co., New York:

DEAR SIR: Yours of June 1st, in regard to suspending work on as many of the bipolar telephones and call-boxes as possible, was duly received.

Of the entire number included in your order there are 550 telephones and 250 call-boxes so nearly completed that there is nothing to be saved by stopping work upon them.

There are 200 telephones and 100 call-boxes for which we have some of the castings all out, some of the rubber pieces made, and some other preparations made towards completing them. On these I had the work suspended before I started east the last time, and nothing has been done on them since then.

We have been letting quite a number of our workmen go for the past week or ten days, and shall have to send away more unless we have new orders from some source.

I was anxious to get some of Edison's telephones and one of Phelps' centipedes, in hopes that there would be some work in making those instruments. At the present writing I have not so much reason to expect a sample of either kind as when I left New York.

Yours truly,

ENOS M. BARTON, *Secy.*

(Indorsement:) W. 496. E. M. Barton. June 5, 1878. As to suspending work on telephonic material.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 8.
Feb. 12, 1890. C. E. D., N. P.

CCXLII, PHILADA., *J'ly XVIIIth.*

GEO. WALKER,

Vice-President Gold and Stock, N. Y.:

De Bree wants to put in a bid for four Edison phones on State-penitentiary line. What is price and when can they be furnished? He says can secure the contract if not delayed.

J. MERRIHEW, *Supt.*

(Indorsement:) W. 654. J. Merrihew. July 18th, 1878. De Bree wants to bid for furnishing 4 Edisons to the State-penitentiary line.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 9.
Feb. 12, 1890. C. E. D., N. P.

[Copy of telegram.]

JULY 16TH, 1878.

E. M. BARTON,

Sec'y, Chicago, Ill.:

Before ordering additional Edisons for Chicago District Co. must first have the price at which you will make them. Also want immediately the price at which you are to make the 250 instruments ordered through Mr. Kellogg. Have got Phelps' prices, and yours must not exceed them.

GEORGE WALKER, *V. P.*

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 10.
Feb. 12, 1890. C. E. D., N. P.

CHICAGO, ILL., 17,

(Rec'd at Western Union Building,
Broadway and Dey street, July 17, 1878).

GEO. WALKER, N. Y.:

We expect to make price on Edison instruments that shall be satisfactory to you. You say our prices must not exceed Phelps'. As the

quantities he makes are greater than ours would it not be fair for you to name his figure? If the quantities were the same we would not ask this; but for the quantities, if we make our work at his figures, we shall do well. Answer.

E. M. BARTON, *Sec'y*.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 11.
Feb. 12, 1890. C. E. D., N. P.

CHICAGO, 16,
(Rec'd at Western Union Building,
Broadway and Dey street, July 16, 1878).

To GEORGE WALKER,
Vice-Pres't, N. Y.:

Chicago American District Co. want to use their own calls and induction-coils, and want one hundred Edison transmitters. To avoid breaking into sets had we not better make one hundred extra transmitters? Their arrangement would not be adapted to general use. Answer.

E. M. BARTON, *Sec'y*.

(Indorsement:) W. 647. E. M. Barton. July 16th, 1878. About making 100 telephones for the Chicago Dist. Co.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 12.
Feb. 12, 1890. C. E. D., N. P.

CHICAGO, 22,
(Rec'd at Western Union B'ld'g,
Broadway and Dey st., June 22, 1878).

GEO. WALKER, *V. P., N. Y.:*

We sent Edison two telephones without buttons and one with button adjusted. We have adjusted several here which are working well.

E. M. BARTON, *Sec'y*.

(Indorsement:) W. 595. E. M. Barton, *sec'y*. June 22, 1878. Number of telephones sent to Edison.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 13.
Feb. 12, 1890. C. E. D., N. P.

BALTIMORE, 8,
(Rec'd at Western Union Building,
Broadway and Dey street, July 8, 1878).

To GEO. WALKER,
Vice-Pres't, N. Y.:

We are making effort to furnish the Balto. water-works with telephone. Can we work seven or eight combination ins'ts on a seven (7) mile line? Board meets at five (5) p. m. to-day. Please advise me.
N. DE BREE.

(Indorsement:) W. 619. N. de Bree. July 8th, 1878. Inquiries about instruments for the Baltimore water-works.

In re Drawbaugh. Public use proceedings. Brewer's Exhibit No. 14.
Feb. 12, 1890. C. E. D., N. P.

MAY 11TH, 1878.

G. M. PHELPS, Esq.,
Supt. W. U. Manufactory, New York:

DEAR SIR: I am going west to-day for a week. On my return I hope to find that you have got the Edison telephones completed, so that I can put them into service. The public is impatient to get these instruments, and we beg that you will give them attention to the exclusion of anything else until they are got out.

Yours respectfully,

GEORGE WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceedings. Brewer's Exhibit No. 15.
Feb. 12, 1890. C. E. D., N. P.

MAY 31, '8.

GEO. M. PHELPS, Esq., *Supt.:*

DEAR SIR: I am instructed by our executive committee to give you an order for five hundred Edison carbon transmitting telephones with Morse key and sounder and induction-coil. We do not wish to order any Edison receiving insts. at present, intending to use yours and Gray's hand insts. as receivers.

We wish this order pressed as rapidly as possible. When you have determined on the form and made an estimate of the price I shd. like to hear from you.

Yours very truly

GEORGE WALKER.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 16.
Feb. 12, 1890. C. E. D., N. P.

JUNE 1ST, '8.

R. C. CLOWRY, Esq.,

A. G. Supt. W. U. Tel. Co., St. Louis, Mo.:

DEAR SIR: In reply to yours of the 21st ult., respecting the establishment of an exchange in connection with East St. Louis, I am willing you should do so if you can do it at paying prices, beginning with the two wires which you can secure from the A. and P., and depending perhaps upon the Edison for the ability to work hereafter through your 45 wires over the bridge. Our experiments here with the Edison satisfy me that with this instrument you can work successfully over such a circuit. We tried it here on Wednesday over a line to Brooklyn on which there were a part of the way 70 wires and a part 40 wires, and though the line was five miles long the results were entirely satisfactory. Gen. Stager was present at the experiment and considered it a conclusive proof that the Edison was to be the future instrument for difficult metropolitan service.

With my previous letters upon this subject you have before you sufficient data to determine the cost of the service, and I am willing you should begin with any number of subscribers which will enable us to pay the stipulated rentals to the telephone co. and the wire rentals to the W. U., together with other necessary expenses, relying upon the enlargement of the service for profit.

Yours very truly,

GEORGE WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 17.
Feb. 12, 1890. C. E. D., N. P.

N. Y., June 7.

E. M. BARTON, *Chicago:*

Please do nothing further on the last 200 telephones and 100 calls till further orders. Bliss has got two Edison transmitters for you. You may draw for May account, payable July 1st.

GEORGE WALKER, *V. P.*

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 18.
Feb. 12, 1890. C. E. D., N. P.

JUNE 7TH.

ENOS M. BARTON, Esq.,

Secy. Western Electric Mfg. Co., Chicago, Ills.:

DEAR SIR: Yours of the 3d inst., inclosing bills for 3,961.90 for telephones and call-boxes completed for our account during the month of

May, came duly to hand, and I telegraphed you to-day authorizing you to draw for the amount, payable July 1st, 1878.

I have also yours of the 5th inst. stating that you have proceeded so far with our last order that it will be necessary to complete 800 telephones and 400 call-boxes, leaving 200 of the former and 100 of the latter upon which only a slight expenditure has been made. I have telegraphed you to do nothing further on these last instruments until further orders; also that Mr. Geo. H. Bliss has received from Edison two of his latest transmitting telephones for you, under my order given at your request when you were here. I understand Mr. Bliss to say that Mr. Edison wishes you to make six telephones of this pattern and return them to him with a bid for the construction of a larger number. Please do so.

I am hurrying up the completion of the first twenty *centipedes*, and have the promise of them within a week. Experiments made yesterday and to-day with a "double centipede" (which is merely two diaphragms put together into one rubber case) have been highly satisfactory. We talked over a line to the produce exchange with entire distinctness in spite of a very heavy induction. Bliss says he thinks the *centipede* by far the best telephone he ever heard.

Yours very truly,

GEORGE WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 19.
Feb. 12, 1890. C. E. D., N. P.

JUNE 11TH, '8.

ENOS M. BARTON, Esq.,
Sec'y, Chicago, Ill.:

DEAR SIR: At a meeting of the directors of this co. held to-day I was instructed to order from the Western Electric Company six Edison carbon telephones with Morse key and sounder and induction-coil, the same to be delivered to and tested by Mr. Edison, and if found to be satisfactory to him and to this company I was authorized to increase the order to 250. I presume you have by this time received the two telephones sent to you by Mr. Edison through Mr. Bliss, and I hope that you will complete the six now ordered as rapidly as possible. It is the universal impression of our directors and of our leading agents in this neighborhood that the Edison instrument is the one which is destined to take the market in large cities, and we desire that you shall have the opportunity of showing how cheaply and well it can be made at your shops in competition with the Western Union Co., to which we have already given an order.

The order which I am thus authorized to make will, I trust, compensate you for giving up the last 200 bipolars and 100 call-boxes upon

which I desired you to suspend work in my letter of the 7th inst., particularly as this, if the instruments prove satisfactory, is likely to be followed by larger orders.

Yours very truly,

GEORGE WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 20.
Feb. 12, 1890. C. E. D., N. P.

JUNE 14TH, '8.

THOS. A. EDISON, Esq.,
Menlo Park :

DEAR SIR: We shall be very glad to take the telephones ordered by you from Partrick & Carter, and the sooner we get them the better, if they are satisfactory to you. I have been daily expecting to receive the six which you promised me for Tuesday last. Perhaps it has slipped your memory. I am very glad to hear that Mr. Phelps has received the 100 carbon buttons.

Yours truly,

GEORGE WALKER, V. P.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 21.
Feb. 12, 1890. C. E. D., N. P.

N. Y., *June* 14.

THOS. A. EDISON,
Menlo Park, N. J. :

We are working your transmitters to our Twenty-third-street office over heavy induction and speaking in a low tone to the entire satisfaction of Mr. Prescott and myself. Hurry up the six promised for Tuesday.

G. WALKER.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 22.
Feb. 12, 1890. C. E. D., N. P.

G. AND S. T. CO.,
June 14.

E. W. ANDREWS,
Pres't Am. Dist. Tel. Co., B'way and 4th st. :

Will you please invite the representatives of district-telegraph companies to visit our office, Western Union building, 195 Broadway, be-

tween four and six o'clock to-day, or any time after nine to-morrow, to try the Edison carbon telephone and the Phelps crown and combination telephones?

GEO. WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 23.
Feb. 12, 1890. C. E. D., N. P.

JUNE 14TH, '8.

S. B. GIFFORD, Esq.,
Sup't W. U. Telegraph Co., Syracuse, New York:

DEAR SIR: Your letter to Supt. Scott of the 3d inst. stating that you would be unable to give proper attention to telephone matters in your district, and suggesting the appointment of Mr. T. A. Graham, in Auburn, in your place, was referred to me at the time of its reception, and I afterwards, as you remember, discussed the question with you and Mr. Graham at Syracuse. I have delayed answering until this time in the hope of being able to make some arrangement by Gen. Stager's advice to meet your wishes in the premises, but he has now returned to Chicago, and not in good health, and while here was occupied in W. U. matters.

The matter ought to be disposed of, and I am willing to make the arrangement proposed, provided you can get Mr. Graham to correspond with your managers on telephone business as they would otherwise correspond with you. This is the only obstacle which presents itself to me to the arrangement. Gen. Stager thought it would be better, in order to avoid it, to have the business pass through your hands nominally, you arranging with Mr. Graham to do the work and making him your deputy for that purpose on such terms as might be mutually agreeable to you and him.

I am very anxious to have your district canvassed, and that thoroughly. We have a sufficient stock now of hand telephones and a moderate supply of combinations. The Edison is now in the hands of several manufacturers, and we expect to begin to deliver it, though in moderate quantities, in the course of a month. It is altogether the best instrument for miscellaneous use yet invented. We are using it to-day over our private line to 23d st. with entire ease and satisfaction. It requires less effort to talk over it than any telephone I have ever seen. In spite of the heavy induction the lowest tone used in conversation is perfectly distinct and audible.

We have also a very superior telephone, both in the single and double form, corresponding to the hand and box telephones heretofore in use, the invention of Mr. Phelps, and known as the crown telephone, which

are the most powerful magneto instruments we have ever used. The delivery of these will probably be a little later than the Edison, but in the course of the summer I expect to have them also for distribution.

We are now making a cheaper form of the Phelps combination box; the telephone being the same, but the generator a smaller instrument, equally effective, however, for distances not exceeding ten miles. The cost will be something like \$4 (four) less than the present combination box, and we expect to be able to rent it with a hand telephone attached at \$25.

The price of our call-box is now \$15.00, less a commission of 10 per cent. With this general information, I would like you to confer with Mr. Graham, and, if necessary, to correspond with Gen. Stager, and decide how you will do the business in your district.

The American District Co. of your city, I learn through Mr. Andrews, desires to secure the use of our telephones, and it is our policy to rent them to all district cos., in cities where we have not and do not expect to have a considerable private-line system of our own, on favorable terms. We shall offer the telephones to them at \$5 each per annum net, free of all commissions and expenses, but confine their use to the circuit system, such as is now maintained on district lines, charging for private lines, if they should erect them, the usual tariff prices less 20 per cent.

Respectfully yours,

_____,
Vice-Prest.

In re Drawbaugh. Public use proceedings. Brewer's Exhibit No. 24.
Feb. 12, 1890. C. E. D., N. P.

JUNE 19TH, '8.

J. V. BELMORE, Esq.,

Agent, 819 Sixth ave., New York :

DEAR SIR : We have received only eight of the Edison telephones to this date, and need them all for exhibition and use at this office. I shall probably advertise an exhibition of these and other instruments Friday or Saturday of this week, expecting to have a line to Philadelphia and to Brooklyn, as well as to our 23d-street office, where the instruments are now working very satisfactorily. It will be better for your customers to go to the 23d-st. office, because the exhibition will be under our own eye, and we should be informed as to the success of it.

Respectfully yours,

GEORGE WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 25.
Feb. 12, 1890. C. E. D., N. P.

JUNE 22D, '8.

GEO. M. PHELPS, Esq.,

Supt. W. U. Telegraph Co.'s Manufactory, New York :

DEAR SIR : I have your memorandum stating that you will furnish the merchants' circuit switch with glass front at \$12.50. Supt. Scott also informs me that your estimate upon the central-office switch is \$14.50. I have therefore to request that you will make us fifty of each of this pattern of instrument, and also fifty of the Edison carbon transmitting telephone to be used in the merchants' circuit; these are without key and sounder, such as were ordered with the first lot.

Respectfully yours,

GEORGE WALKER,
Vice-Prest.

J. R. BEACH.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 26.
Feb. 12, 1890. C. E. D., N. P.

JULY 8TH, '8.

M. G. KELLOGG, Esq.,

Supt. Western Electric Mfg. Co., Chicago, Ill. :

DEAR SIR : Referring to our interview of Saturday, I beg to say that we do not desire, as yet, to have any receivers for the Edison telephones made at the Western Electric shops. We propose at first to use the magneto hand telephones which we now have, Gray's and Phelps', as receivers.

I have to request that you will confer with Mr. Phelps in respect to the most desirable form of Edison transmitter, induction-coil, key, and sounder, and that when you have decided upon it you will proceed as rapidly as possible to complete, at Chicago, the order for two hundred and fifty of these telephones given to Mr. Barton on the 11th of June last.

Respectfully yours,

GEORGE WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 27.
Feb. 12, 1890. C. E. D., N. P.

JULY 8TH, '8.

G. M. PHELPS, Esq.,

Supt. W. U. Tel. Co. Manufactory, New York :

DEAR SIR : Please deliver to M. G. Kellogg, for the Western Electric Mfg. Co., two Edison transmitting telephones, one of them to be care-

fully adjusted as a standard, and the other in such condition that it can be taken to pieces for imitation.

Respectfully yours,

GEORGE WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 28.
Feb. 12, 1890. C. E. D., N. P.

N. Y., *July* 19, '78.

CHAS. BATCHELOR,
Menlo Park, N. J. :

Have the Partrick and Carter instruments been delivered to you?
We are in a hurry to get them.

GEORGE WALKER, *V. P.*

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 29.
Feb. 12, 1890. C. E. D., N. P.

JULY 19TH, '8.

N. DE BREE, Esq.,
Manager G. and S. Telegraph Co., Baltimore, Md. :

DEAR SIR: We will furnish four Edison telephones with Morse key and sounder, and four Phelps duplex hand telephones as receivers, for the State-penitentiary line, at \$25 the set.

In addition they will need to purchase the necessary battery, the number of cells depending upon the length of line.

If we furnish and maintain the battery and inspect it and the instruments, the yearly charge will be from \$20 to \$25 per office. Exact estimates cannot be given without knowing the length and condition of the line. We can furnish instruments within two weeks, and possibly within one.

Respectfully yours,

GEORGE WALKER,
Vice-Prest.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 30.
Feb. 12, 1890. C. E. D., N. P.

JULY 19TH, '8.

HARRY FISHER, Esq.,
Prest. Am. Dist. Tel. Co., Baltimore, Md. :

DEAR SIR: Absence from the city and a pressure of business have prevented my sooner replying to yours of the 13th inst.

In reference, first, to the telephones wanted for your brothers to use at their country house, and for their neighbor Mr. Elliott, we will rent

7083 TEL—19

you such telephones as they may desire, Phelps duplex pattern, at \$5 each per annum. This is an exceptional price, which we have only heretofore given for interior use; please therefore not to regard it as a precedent. We have at the present time only one style of call-box, which we sell at \$15. It is altogether more powerful than you need for the line in question. You could probably put up something much cheaper which Mr. McCulloh could devise. All expense, of course, of lines inside and outside to be paid by your friends. If they should decide to take the telephones, Mr. de Bree will furnish them to you on showing him this letter, as they must go through his agency.

As to the Edison for use on district lines, I shall be glad to talk with Mr. Hume and Mr. McIntyre when they are in this city. I can explain to them by the instrument itself its advantages better than I could do so by correspondence.

I have just got a price from the manufacturer for the Edison carbon telephone, to be used on American district lines, without induction-coils or other appendage to be supplied by us, which I think will make it an economical instrument for your use.

Respectfully yours,

GEORGE WALKER,
Vice-Prest.
J. R. BEACH.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 31.
Feb. 12, 1890. C. E. D., N. P.

JULY 20TH, '8.

THOS. A. EDISON, Esq.,
Menlo Park, New Jersey :

DEAR SIR: Please have sent to the Western Electric Manufacturing Company at Chicago, Ill., three hundred and fifty carbon buttons for Edison transmitters, and oblige,

Yours very truly,

GEORGE WALKER,
Vice-Prest.
J. R. BEACH.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 32.
Feb. 12, 1890. C. E. D., N. P.

N. Y., JULY 22.

GEO. S. LADD,
San Francisco :

I send you two Edison transmitting telephones by express to-day. They work perfectly well over very hard lines where no magneto will do.

G. WALKER, V. P.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 33.
Feb. 12, 1890. C. E. D., N. P.

JULY 23D, '8.

GEO. S. LADD, Esq.,
Prest., San Francisco, Cal.:

DEAR SIR: Yours of the 12th inst. was duly received covering your account of telephones and cords made in the month of May. I will present it to the executive committee on Thursday and get authority to pay it. I see you still say that the Bell Co. rent call-boxes at \$5 per annum. They have universally ceased doing so in this part of the country, and I supposed everywhere. Their bell they sell at \$10, and they claim that it costs them at least \$9.

I note your proposition that we should buy up all your call-bells on hand, say 157 at \$15, or \$2,355, less rentals on 112 at \$5, received \$560; balance net, in gold, \$1,795. We must decline this proposition. Our investment in call-bells is already entirely out of proportion to the revenue derived from telephones. This is the burdensome part of the whole business, and we were particular in making our contract with you, as we have been in every similar case with other companies, to stipulate that you should assume this burden.

I sent you yesterday a pair of the Edison carbon telephones which had just been received from the shop, and, with the exception of a few samples, they are the first we have had. I instructed that they should be tested, and if they work as well as those which we have ourselves used you will find no reason to complain of them. We anticipate that they will supply a place which no magneto-telephone can fill.

In answer to a telegram from Mr. Gamble, received a few days before your letter, stating that he had received \$1,712.50 of telephone money for our account, and also that your company had declared a dividend amounting to \$1,875 on shares belonging to us, I replied requesting him to remit all of said funds.

Yours very truly,

GEORGE WALKER,
Vice-Prest.
J. R. BEACH.

In re Drawbaugh. Public use proceedings. Brewer's Exhibit No. 34.
Feb. 12, 1890. C. E. D., N. P.

JULY 23D, '8.

J. MERRIHEW, Esq.,
Supt. W. U. Telegraph Co., Philadelphia, Penn.:

DEAR SIR: We can now send a pair of the Edison telephones to Mr. Fuller for the Bethlehem Iron Company, if they want them. The rental will be, with the Phelps duplex telephone as a receiver, \$25 an office. This is exclusive of the cost of battery, which will be some \$18 more per office. You will thus perceive that these instruments are considerably

more expensive than the Phelps combination box, by reason of the cost of the battery. Please let me know whether I shall forward them at these prices.

Respectfully yours,

GEORGE WALKER,
Vice-Prest.

J. R. BEACH.

In re Drawbaugh. Public use proceeding. Brewer's Exhibit No. 35.
Feb. 12, 1890. C. E. D., N. P.

JULY 23D, '8.

N. DE BREE, Esq.,

Agent Gold and Stock Tel. Co., Baltimore, Md.:

DEAR SIR: Have the water board acted yet upon the telephone matter? We can, within a few days, send you Edison telephones for their service, provided they want them and are willing to pay the price, which is about the same as the Phelps combination in addition to the battery. We make the price of an Edison, with a hand telephone as a receiver, \$25 per office, and the battery will cost about \$18 more.

Yours respectfully,

GEORGE WALKER,
Vice-Prest.

J. R. BEACH.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 1.
Feb. 14, 1890. C. E. D., N. P.

Memorandum of tel. ex. service for which there is no contract.

CONTRACT NO. 1.

Name, Funch, Edye & Co.

Line, 27 South William st.

Insts., 1 Ed. tel.

Date ordered, July 1, '78.

Date completed

Revenue commenced Aug. 3d, '78.

Rent per annum, \$240.00.

No contract because included in P. L. contract No. 286.

(Indorsed:) No. 1. Funch, Edye & Co. Service without contract.

This service is expressed in No. 286 private line. Discontinue. July 1, '79. Succeeded by contract No. 617.

In re Drawbaugh. Public use proceedings. Butler's Exhibit No. 2.
Feb. 14, 1890. C. E. D., N. P.

[Form No. 129.]

This agreement, made this twenty-fifth day of June, one thousand eight hundred and seventy-eight, by and between the Gold and Stock Telegraph Company, a corporation duly organized under the laws of the State of New York, party of the first part, and Messrs. James S. Rockwell & Co., of New York, party of the second part—

Witnesseth: That said party of the first part is to furnish within thirty days from the date hereof, for the use of the said party of the second part, a telegraph wire connecting their offices, No. 101 and 103 Duane st., New York, and factory, cor. Flushing and Classon avenues, Brooklyn, L. I., with one carbon transmitting telephone at each of the above designated localities, and to maintain the same in good working order at their own proper cost and expense during the continuance of this agreement.

In consideration of the above stipulations and agreements, the party of the second part agrees, upon the establishment of telephonic communication by the said line, to pay to the said party of the first part the sum of thirty (\$30.00) dollars, as rent for said wire and instruments, at the end of each and every calendar month after the date when such communication shall have been established, the proper *pro rata* deduction being made for the part of the first month (if any) which may elapse before the completion of the line.

The conditions of this lease are: That the lessee shall take good care of the said telephones and call-bells and all appurtenances thereof, and shall on the termination of the tenancy deliver the same to the lessor, or their proper agent, in as good condition, ordinary wear excepted, as when received; that said telephones shall not be used for the transmission of messages for hire, nor on any other line than that hereinbefore mentioned; that this lease shall not be assigned, nor the possession or use of said telephones transferred, to any other party; that, in the event of telegraphic communication being interrupted on said line, the lessee shall immediately notify the lessor, who shall restore the same without unreasonable delay, and for that purpose, and for the purpose of inspecting the same, are, by their proper agents, to have access to the same at all reasonable times; that in case of any violation of these conditions, or on default in the payment of rents, the lessor, by their proper agents, may enter upon the premises where said telephones and call-bells may be, and take possession of the same, and the lessee shall have no claim for repayment of any rent which may have been paid in advance therefor. In case of destruction or loss of said telephones or call-bells during the continuance of the tenancy, without the fault of the lessor, the lessee agrees to pay for the same the agreed price of \$20.00 for each hand telephone, \$40.00 for each box telephone, \$15.00

for each call-box, and \$75.00 for each telephone and call-box combined, so lost or destroyed.

This agreement shall remain in full force until May first, 1881, commencing from the time at which said line and instruments were delivered to said party of the second part in good working order, as aforesaid.

[SEAL.]

THE GOLD AND STOCK TELEGRAPH CO.,
By GEORGE WALKER, V. P.
J. S. ROCKWELL & Co.

Attest:

J. D. REID, Sec.

(Indorsed:) No. 2 P. L. No. 4. James S. Rockwell & Co. Telephone line. No. 2689. No. 4. Contract. Discontinued. Date, June 25, '78.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 3.
Feb. 14, 1890. C. E. D., N. P.

[Form No. 124.]

This agreement, made this first day of July, one thousand eight hundred and seventy-eight, by and between the Gold and Stock Telegraph Company, a corporation duly organized under the laws of the State of New York, party of the first part, and Messrs. Funch, Edye & Co., of New York, party of the second part—

Witnesseth: That said party of the first part is to furnish, from the date hereof, for the use of said party of the second part, a telegraph line connecting their office, No. 27 So. William st., New York, and pier at Pavonia Ferry, Jersey City, N. J., with two telegraphic printing instruments; also to connect said office at 27 South William st. with the central exchange office of said G. & S. Tel. Co. at 198 Broadway, and to equip said line with one printing instrument and two telephones, together with a suitable switching and signaling apparatus, and to maintain the same in good working order at their own proper cost and expense during the continuance of this agreement.

In consideration of the above stipulations and agreements the party of the second part will, upon the establishment of the telegraphic communication by the said lines, pay to the said party of the first part the sum of one hundred dollars, as rent for said line, at the end of each and every calendar month after the date when such communication shall have been established, the proper *pro rata* deduction being made for the part of the first month (if any) which may elapse before the completion of the line.

It is further understood and agreed that, in the event of telegraphic

communication being interrupted on said line, the party of the second part shall immediately notify the party of the first part, who shall restore the same without unreasonable delay. The party of the second part also hereby agrees to note the fact of such interruption on the inspection-slips presented periodically for signature; and should the notices, as above specified, and the records kept by the party of the first part, show that the said interruptions existed for periods amounting in the aggregate to more than five days in any one month, then the payment of rent, as aforesaid, by said party of the second part shall not be required for such periods, provided, however, that said interruptions do not occur through the negligence or willful interference of the employés of the party of the second part; but the party of the first part is in no event to be liable for damages for such interruptions, or in case of failure to restore communication on said line, beyond the loss of rent, as above provided.

It is further mutually understood and agreed by and between the said parties that the said telegraph line, to be constructed as aforesaid, is to be used solely for the benefit of the party of the second part, and for the transmission of messages relating to the business and affairs of the party of the second part, and that the same is not directly or indirectly to be used in any way or manner for the transmission of messages for the public or any other person or persons.

It is further understood and agreed that the said line, instruments, wires, and fixtures shall at all times be and remain the property of the party of the first part, and be accessible to their employés, and that nothing in this agreement contained shall be construed as, or have the effect of, vesting in the party of the second part any right, title, or interest to or in the same, except the right to use the same during the term of this agreement, upon making each and every payment for the use thereof herein provided.

This agreement shall remain in full force for and during the period of one year from the time at which said line and instruments were delivered to the said party of the second part in good working order, as aforesaid.

[SEAL]

THE GOLD & STOCK TEL. CO.,
By GEORGE WALKER, V. P.
FUNCH, EDYE & CO.

Attest:

JAMES D. REID, *Sec.*

(Indorsed :) No. 2689. No. 10. Contract No. 286. Gold and Stock Telegraph Company with Funch, Edye & Co. Dated July 1, 1878. Discontinue. July 1, '79. Succeeded by contract No. 486.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 4.
Feb. 14, 1890. C. E. D., N. P.

Memorandum of P. L. service for which there is no contract.

CONTRACT No. 391.

Name, J. H. Banker.

Line (No. 1), residence to W. U. office, Irvington; (No. 2), residence to stable.

Inst's, No. 1, 2 Ed. tel's; No. 2, 2 call-bells.

Date ordered

Date completed: No. 1, June 29; No. 2, Apr. 13th.

Revenue

Rent per annum: D. H.

No contract because D. H. director.

(Indorsed:) ⌘ 2689. No. 1. No. 244 T. L. James H. Banker. Service without contract.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 5.
Feb. 14, 1890. C. E. D., N. P.

[Form No. 500.]

This agreement, made this second day of July, one thousand eight hundred and seventy-eight, by and between the Gold and Stock Telegraph Company, a corporation duly organized under the laws of the State of New York, party of the first part, and C. A. Arthur, esq., collector U. S. customs, New York, party of the second part—

Witnesseth: That said party of the first part is to furnish, as soon as practicable, for the use of the said party of the second part, a telegraph wire connecting the surveyor's office with the barge office, No. 119 and 303 West st., and No. 184 Christopher st., New York, in one circuit; also to connect the surveyor's office with 175 Front st. and No. 612 Grand st., New York, and Roberts stores and Baltic stores, Brooklyn, with cable wire under the East River, in another circuit, and to maintain the same in good working order at their own proper cost and expense during the continuance of the agreement.

In consideration of the above stipulations and agreements the party of the second part agrees, upon the establishment of telephonic communication by the said line, to pay to the said party of the first part the sum of eighty-five (85) dollars, as rent for said wire and instruments, at the end of each and every calendar month after the date when such communication shall have been established, the proper *pro rata* deduction being made for the part of the first month (if any) which may elapse before the completion of the line.

It is, however, understood and agreed that, in the event of telephonic communication being interrupted on said line, the party of the second

part shall immediately notify the party of the first part, who shall restore the same without unreasonable delay. The party of the first part also hereby agrees to note the fact of such interruption on record-books kept by it for the purpose; and should such records show that the said interruptions existed for periods amounting in the aggregate to more than five days in any one month, then the payment of rent, as aforesaid, by said party of the second part, shall not be required for such periods, provided, however, that said interruptions do not occur through the negligence or willful interference of the employés of the party of the second part; but the party of the first part is in no event to be liable for damages from such interruptions, or in case of failure to restore communication on said line, beyond the loss of rent, as above provided.

This agreement shall remain in full force for and during the period of three years from the time at which said line and instruments were delivered to said party of the second part in good working order, as aforesaid; and during the continuance of the same the party of the first part agrees to protect the party of the second part against any proceedings which may be brought against him by Alexander Graham Bell, or his assigns, for alleged infringement of patents in using the telephones hereby leased, and, upon notice and request of said party of the second part, to assume the defense of such proceedings and all expenses incident thereto.

Will also furnish carbon telephones at each of the herein-named localities, being ten (10) in all.

[SEAL.]

THE GOLD AND STOCK TELEGRAPH CO.,
By GEORGE WALKER,
Vice-President.

Attest:

J. D. REID, *Sec.*

C. A. ARTHUR,
Collector of Customs, Port and District of New York.

(On margin :) Renewal. One year, \$1,050. On contract for 3 yrs., \$985.00 per yr. Aug. 20, '81.

(Indorsed :) No. 102 P. L. No. 3. C. A. Arthur, collector of customs, with Gold and Stock Telegraph Co. № 2689. № 3. Private telephone line. Submitted Sept. 1st, '84, for renewal. D. M. H.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 6.
Feb. 14, 1890. C. E. D., N. P.

TEL. EX.

ORDER FOR TELEPHONES, FEB. 6, 1879.

Contract No. 1. Name, Funch, Edye & Co. Date of cont., July 1, 1878. Offices at 27 So. Wm. st., 198. Number and kind, 1 Edison telephone. Rate per month, 20.00. From Aug. 1, '78.

Approved. Prog. No. F. 23. H. R. B., asst. secretary.
 Finished. Charge from Aug. 3, 1878. Record No. 476. Done. G.
 L. W., asst. superintendent.
 Entered. J. C. M., collector.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 7.
 Feb. 14, 1890. C. E. D., N. P.

P. L. No. 2689.—No. 6.

ORDER FOR TELEPHONES.

Contract No. 4. Name, James S. Rockwell. Date, June 25, 1878.
 Offices at 101 Duane, cor. Flushing and Classon, B'n. Number and kind,
 2 Edison. Rate per month, \$30.

Entered. J. D. Reid, sec.

Approved. Prog. No. 54 (R. 3). J. D. R., secretary.

Finished. Charge from August 9, 1878. Record No. 54. G. L.
 Wiley, asst. superintendent.

Entered. Charge on P. L. blank. J. C. M., collector.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 8.
 Feb. 14, 1890. C. E. D., N. P.

No. 2689.—No. 5.

ORDER FOR TELEPHONES.

Contract No. 52. Name, James H. Banker. Date, June 24, 1878.
 Offices at Irvington & house. Number and kind, 2 Edison. Rate per
 month, D. H.

Entered. J. D. Reid, sec.

Approved. Prog. No. 52 (B. 4). J. D. R., secretary.

Finished. Charge from June 29, 1878. Record No. 52. G. L. Wiley,
 asst. superintendent.

Not entered. Charge, D. H. J. C. M., collector.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 9.
 Feb. 14, 1890. C. E. D., N. P.

§ 2689.—§ 9.

ORDER FOR TELEPHONES.

Order No. 58. P. L. 287. Name, C. A. Arthur. Date, July 5, 1878.
 Offices at 2 P. L. of 5 offices each. Number and kind, 10 Edison. Rate
 per month, \$85.

Entered. J. D. Reid, sec.
 Approved. Prog. No. 58 (A. 3). J. D. R., secretary.
 Finished. Charge from August 10, 1878. Record No. 58. G. L. Wiley, asst. superintendent.
 Entered. Charge on P. L. blank. J. C. M., collector.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 10.
 Feb. 14, 1890. C. E. D., N. P.

⌘ 2689.—No. 7.

ORDER FOR TELEPHONES.

Contract No. 56. Name, Charles L. Wright & Co. Date, July 1, 1878. Offices at 56 South and Eagle pier, Hoboken. Number and kind, 2 Edison. Rate per month, \$55.
 Entered. J. D. Reid, sec.
 Approved. Prog. No. 56 (W. 4). J. D. R., secretary.
 Finished. Charge from July 23, 1878. Record No. 56. G. L. Wiley, asst. superintendent.
 Entered. Charge, \$——. See P. L. notice. J. C. M., collector.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 11.
 Feb. 14, 1890. C. E. D., N. P.

⌘ 2689.—⌘ 8.

ORDER FOR TELEPHONES.

Contract No. 60. Name, Health Dept. Date, July 9, 187—. Offices at 51 E. 54, 4th ave. and 50th, 56 E. 34th, 51 E. 25th, and 301 Mott st. Number and kind, 5 Edison, 5 Morse sounders. Rate per month, \$16.66.
 Entered. J. D. Reid, sec.
 Approved. Prog. No. 60 (H. 2). J. D. Reid, secretary.
 Finished. Charge from Aug. 14, 1878. Record No. 60. G. L. Wiley, superintendent.
 Entered. Charge \$9. J. C. M., collector.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 12.
 Feb. 17, 1890. C. E. D., N. P.

JULY 18TH, 1878.

ESTIMATE OF TELEPHONE LINES FOR MURPHY & NESBITT.

3 offices: 381 South st., East River, 1st ave. and 37th st., 29th st., East River.

5 6-10 miles, at \$25.....	140.00
Cost of battery, battery service, and inspection, 3 offices, at 18.....	54.00
Total cost maintenance	194.00
1-3 profit.....	64.66
	258.66
3 sets (Edison transmitter, Phelps hand duplex) at 40.....	120.00
	12)378.66
	31.55

Say \$33.00 a month on a 3 y'rs lease.

(Written on copy in ink :) July 27, reduced to \$30.00.

In re Drawbaugh. Public use proceeding. Butler's Ex. No. 13. Feb.
17, 1890. C. E. D., N. P.

JULY 19TH, '8.

E. W. TODD & Co.,
44 Broad st., New York :

The following are our estimates for a line connecting the 3 offices at 44 Broad st., New York, 15 West 28th st., New York, 200 Montague st., Brooklyn.

With printers, \$60 per month on a 3 years' lease. With Edison telephones, \$45 per month on a 3 years' lease. With printers and Ed. telephones, \$70 per month on a 3 years' lease.

Yours resp'y,

GEO. B. SCOTT, *Supt.*,
Per HOWARD R. BUTLER.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 14.
Feb. 17, 1890. C. E. D., N. P.

JULY 19, '8.

GEO. W. HAGEMAN, Esq.,
Consolidated Fruit Jar Co., New Brunswick :

DEAR SIR: In reply to your letter of July 9th to Mr. Edison, we would say that the Gold and Stock Tel. Co. will furnish a line equipped with Edison telephones running from New Brunswick to 49 Warren st., New York, at a monthly rental of \$120.

Yours resp'y,

GEO. B. SCOTT, *Supt.*,
Per HOWARD R. BUTLER.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 15.
Feb. 17, 1890. C. E. D., N. P.

JULY 19, '8.

J. A. BOSTWICK, Esq.:

DEAR SIR: We will furnish a telephone line connecting 3 offices at 138 Pearl st., 61st st., and 5th ave., and $1\frac{1}{2}$ miles from Mamaroneck, and supply Edison telephones at each office for \$750 a year, payable monthly.

As the principal items of expense are the erecting and taking down of the line (the latter costing about \$200), it will be necessary to charge for shorter periods of time a much higher rate.

For three months the charge will be \$500.

Yours respectfully,

GEORGE B. SCOTT, *Supt.*,
Per H. R. BUTLER.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 16.
Feb. 17, 1890. C. E. D., N. P.

JULY 19TH, '8.

L. A. MILBANK, Esq.,
South Norwalk, Conn.:

DEAR SIR: The distance from 56th st. to Tremont is rather long for magneto telephones, especially if but one telephone is used at each office.

The Edison telephone, however, we are sure, would give great satisfaction, using also one magneto-telephone at each office as a receiver.

We would also state that in order to connect the offices with existing pole lines it will be necessary to put up 11 poles, which we will erect, if desired, at a cost of \$4 a pole, unpainted. This expense must be paid by you.

The estimate for the line is \$40 a month on a three years' lease.

Yours resp'y,

GEO. B. SCOTT, *Supt.*,
Per HOWARD R. BUTLER.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 17.
Feb. 17, 1890. C. E. D., N. P.

JULY 20TH, '8.

C. C. YEATON, Esq.,
44 Murray st.:

DEAR SIR: Our estimate for a telephone line using Edison telephones from 44 Murray st., New York City, to Greenville, N. J., is \$60 a month on a three years' lease,

302 BUTLER'S EXHIBITS 18 AND 19 AND SCOTT'S EXHIBIT 1.

This does not include the cost of putting up poles at Greenville. We will erect unpainted poles at \$4 each, which must be paid by you.

Yours respectfully,

GEO. B. SCOTT,
Per H. R. BUTLER.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 18.
Feb. 17, 1890. C. E. D., N. P.

JULY 24TH, '8.

J. F. GORMLEY, Esq.,
Canvasser, 167 B'way :

DEAR SIR: Our estimate on Edison telephone line for Horton Ice Cream Co., connecting 2 offices located at 75 Chatham st. and 305 4th ave., is \$18.00 per month on a 3 years' lease.

Yours respfy.,

GEO. B. SCOTT, *Supt.*,
Per H. R. BUTLER.

In re Drawbaugh. Public use proceeding. Butler's Exhibit No. 19.
Feb. 17, 1890. C. E. D., N. P.

JULY 25TH, '8.

JARVIS & Co.,
47 Broad st. :

The following are our estimates on two Edison telephone lines:

1. Connecting 2 offices at cor. Clinton and South, cor. Nor. 5th and Provost, Jersey City, \$60 per month on a 3 years' lease.

2. Connecting 3 offices at cor. Clinton and South, 47 Broad, cor. Nor. 5th and Provost, \$66 per month on a 3 years' lease.

Yours respfy.,

GEO. B. SCOTT, *Supt.*,
Per H. R. BUTLER.

In re Drawbaugh. Public use proceeding. Scott's Exhibit No. 1. Feb.
14, 1890. C. E. D., N. P.

2725. No. 417.

GOLD AND STOCK TELEGRAPH CO.

For Capt. H. W. Howgate, Signal Office, Washington, D. C., July 22, 1878.

128]

Dept.	No.	Articles.	Shipped.	How.	Received.	Value.
Telf ...	2	Crown telephones, Nos. 4 and 5.....	July 22	Ex....	.....	7
	2	Edison telephone transmitters by express to-day, (52, 18).	.....	.....	.....	27

Bill Oct. 15, '78. Bill to Secty.

2 crown telephones, at \$12	\$24
2 Edison sets, at \$50	100
	\$124

Entered on July, '78, account. E. E. K.

In re Drawbaugh. Public use proceeding. Scott's Exhibit No. 2. Feb.
14, 1890. C. E. D., N. P.

MENLO PARK, N. J., Sep. 7, 1878.

Gold and Stock Telegraph Co., Dr. to Thomas A. Edison.

*2 induction-coils with switch and key, at 8.00	\$16.00
*6 do. do. box, at 4.00	24.00
*8 carbon transmitters, at 6.00	48.00
*2 20-ohm sounders, at 5.50	11.00
	99.00

(Purple ink :) Ent'd, K.
G. W., V. P.
Telephone const'n.
G. B. P., V. P.
(Purple ink :) Approved.

GEO. B. SCOTT, Supt.

MENLO PARK, N. J., Sep. 7, 1878.

Gold and Stock Tel'g. Co., Dr. to Thomas A. Edison.

To two Partrick and Carter telephones, at 25	\$50
--	------

(Purple ink :) Ent'd, K.
G. W., V. P.
G. B. P., V. P.
Telephone const'n.
(Purple ink :) Approved.

GEO. B. SCOTT, Supt.

Above find bill as requested. I have also made bill for the two telephones sent
you.

Yours resp't.,

T. A. EDISON,
P'r C.

(Indorsed :) 1878, Sept. 9. R'sp'y ref'd to V. P. Prescott for advice respecting
prices. G. Walker, V. P.

Supt. Scott reports that V. P. Prescott said, as the work was experimental, sh'd not
be hard on Mr. Edison. G. W., V. P.

* Checked in purple ink.

[Attached to bill rendered.—9-26.]

APPROVED.

Form 58.

OCT. 17, 1878.

Received from the Gold & Stock Telegraph Co. one hundred and forty-nine dollars for ———.

§—

THOMAS A. EDISON.

In re Drawbaugh. Public use proceeding. Wiley's Exhibit American District Company's orders. Mch. 13, 1890. C. E. D., N. P.

No. 1.

ORDER FOR TELEPHONES.

Contract No. ——. Name, Am. Dist. Tel. Co., N. Y. Date, June 27, 1878. Offices at ——. Number and kind, 2 Edison, \$40; 3 Phelps hand, 15. Rate per month, not reported.

Approved. Prog. No. 92 (A. 5). J. D. R., secretary.

Finished. Charge from June 27, 1878. Record No. 79. G. L. Wiley,
asst. superintendent.

Entered. Charge, \$55.00. J. C. M., collector.

No. 2.

ORDER FOR TELEPHONES.

Contract No. 63. Name, Am. Dist. Tel. Co. of N. Y. Date, July 25, 1878. Offices at ———. Entered, J. D. Reid, sec. Number and kind, 3 telephones (hand). Rate per year, \$15.

Approved. Prog. No. 63 (A. 4). J. D. R., secretary.

Finished. Charge from July 25, 1878. Record No. 63. G. L. Wiley,
asst. superintendent.

Entered. Charge, \$15. J. C. M., collector.

No. 3.

ORDER FOR TELEPHONES.

Contract No. ——. Name, Am. Dist. Tel. Co. Date, Aug. 22, 1878.
Offices at ——. Number and kind, 8 Edison, \$160; 2 Phelps hand,
10. Rate per month, —.

Approved. Prog. No. 93 (A. 6). J. D. R., secretary.

Finished. Charge from Aug. 22, 1878. Record No. 80. G. L. Wiley,
asst. superintendent.

Entered. Charge, \$170. J. C. M., collector.

No. 4.

ORDER FOR TELEPHONES.

Contract No. ——. Name, Am. Dist. Tel. Co. Date, Aug. 26, 1878.
Offices at ——. Number and kind, 1 Phelps hand tel. Rate per
month, —.

Approved. Prog. No. 94 (A. 7). J. D. R., secretary.

Finished. Charge from Aug. 26, 1878. Record No. 81. G. L. Wiley,
asst. superintendent.

Entered. Charge, \$5. J. C. M., collector.

No. 5.

ORDER FOR TELEPHONES.

Contract No. ——. Name, Am. Dist. Tel. Co. Date, Sept. 6, 1878.
Offices at ——. Number and kind, 8 Phelps hand, \$40. Rate per
month, —.

Approved. Prog. No. 95 (A. 8). J. D. R., secretary.

Finished. Charge from Sept. 6, 1878. Record No. 82. G. L. Wiley,
asst. superintendent.

Entered. Charge, \$40. J. C. M., collector.

(See papers attached to back of these orders. Oct. 18, '78. J. C. M.)

No. 6.

NEW YORK, Sept. 30, 1878.

Amer. Dist. Tel. Co. to the Gold and Stock Telegraph Co., Dr.

For June 27th, 2 Edison, \$40; 3 Phelps hand telephones, \$15.....	\$55
Aug. 22, 8 " \$160; 2 " " " \$10.....	170
" 26, 1 " " "	5
Sep. 6, 8 " " "	40
	270

Received payment for the company.

_____,
Collector.

Please draw check to order of the company.

(Across the face:) Make all these rentals date from Sept. 1, 1878. G. Walker, V. P.

AMERICAN DISTRICT TELEGRAPH CO.,

— offices, 699 Broadway.

Sept. 1st, 10 Edison, at 20.....	200
Sept. 1st, 14 Phelps, at 5.....	70
	270

This is the change in bill agreed with Mr. Andrews and Mr. Walker, that these should all date from Sep. 1st instead of several different dates. No note of any other change.

J. C. MASSA.

In re Drawbaugh. Public use proceeding. Taylor's Exhibit Voucher for \$82.00. Mch. 17, 1890. C. E. D., N. P.

[William Orton, President. George Walker, Geo. B. Prescott, Vice-Presidents. Jas. D. Reid, Secretary. George B. Scott, Superintendent. P. O. Box 5645.]

GOLD AND STOCK TELEGRAPH COMPANY,
SUPERINTENDENT'S OFFICE, WESTERN UNION BUILDING,
New York, Aug. 2d, 1878.

J. B. VAN EVERY, Esq.:

DEAR SIR: Please charge Prof. Chandler, pres't board of health, N. Y. City, with—

2 Phelps hand phones	24. 00
2 Gray bipolar "	24. 00
2 Edison carbon trans., with induction-coils.....	34. 00
	\$82. 00

I have received a check for above, and handed same to Mr. Taylor this day, who receipted the bill.
Yours resp'y,
GEO. B. SCOTT, *Supt.*

In re Drawbaugh. Public use proceeding. Taylor's Exhibit Western Electric Bill. Mch. 17, 1890. C. E. D., N. P.

CHICAGO, *August 31, 1878.*

Gold and Stock Telegraph Co., New York City, bought of Western Electric Manufacturing Co., 220 to 232 Kinzie street.

8 Edison transmitters, with induction-coils and boxes (5002, 5004, 5006, 5008, 5010, 5012; two sent to Mr. Edison without numbers), at 20.00	160. 00
250 Edison transmitters, with coils and sounders complete, at 13.50	3, 375. 00
100 " " without " " " " for A. D. T. Co., at 3.00.....	300. 00
Transmitters numbered F 5014 to F 5712; boxes numbered F 1 to F 250.	
17 boxes and packing at 35 c., 5.95; 7 cartages at 35, 2.45	8. 40
	3, 843. 40
Less \$6.50 on 8 Edison trans.....	52.
	3, 791. 40

(Across the face:) 854. Approved for \$3,791.40. G. Walker, V. P.

In re Drawbaugh. Public use proceedings. Exhibit War Department Records. Mch. 21, 1890. C. E. D., N. P.

UNITED STATES OF AMERICA,
WAR DEPARTMENT,
Washington City, February 13th, 1890.

Pursuant to section 882 of the Revised Statutes, I hereby certify that it appears from the records of the Signal Office, Washington, D. C., that the annexed copies of the records of the Signal Office have been compared with and are true copies of the original records on file at this office.

A. W. GREELY,
Chief Signal Officer.

Be it known that A. W. Greely, who signed the foregoing certificate, is the Chief Signal Officer of the Army of the United States, and that to his attestation as such full faith and credit are and ought to be given.

In witness whereof I have hereunto set my hand and caused the seal of the War Department to be affixed on this 14th day of February, one thousand eight hundred and ninety.

[SEAL.]

REDFIELD PROCTOR,
Secretary of War.

1878. 8696.

GOLD AND STOCK TEL. CO., SCOTT, GEO. B., SUP'T.

NEW YORK, *July 23, 1878.*

Advises of having shipped 2 crown telephones and 2 Edison transmitting telephones, with desk, &c., &c.

Incloses diagram of the latter arrangement, with directions for working same.

A true copy, as shown by the records of this office; the original not in file. This is a transcript from the letters-received book—the official brief.

A. W. GREELY,
Chief Signal Officer.

2, 13, '90.

OCT. 26TH, '8.

R. H. ROCHESTER,

Treasurer Gold and Stock Tel. Co., New York City:

SIR:

ass't

28673

N. Y. City,

your order

1,644.00

telephones furnished and

for which signed vouchers have just been received.

A true copy, as shown by the letter-press records of this office.

A. W. GREELY,
Chief Signal Officer.

OCT. 24, '8.

GOLD AND STOCK TEL. CO.,
P. O. Box 5643, New York City:

GENTLEMEN:

1644

telephones, &c.

The treasurer, in his official capacity, or other officer, authorized to receipt for moneys due.

A true copy, as shown by the letter-press records of this office.

A. W. GREELY,
Chief Signal Officer.

I have to say that certain portions of the letters that may be material are missing, owing to the fact that the ink in use at that time was either non-copying or that the copy made has since faded; probably the first supposition is the correct one. The officer who signed these papers was presumably, if not undoubtedly, H. W. Howgate, who was at that time the property and disbursing officer of the Signal Service. As regards the check drawn on the assistant treasurer at New York, I have the honor to say that there is no record in this office which will show whether the check was ever paid or not.

A. W. GREELY,
Chief Signal Officer.

In re Drawbaugh. Public use proceeding. Exhibit Howgate Check, etc. Mch. 21, 1890. C. E. D., N. P.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, D. C., February 17, 1890.

The Honorable the SECRETARY OF THE INTERIOR:

SIR: I have the honor to inclose herewith, in compliance with the request contained in your letter of the 11th instant, certified copy of paid and canceled check No. 28,673, drawn October 26, 1878, upon the assistant treasurer of the United States at New York, by H. W. Howgate, 1st lieutenant and disbursing officer, to the order of R. H. Rochester, treasurer Gold and Stock Telegraph Company, for \$1,644, together with traced copy of indorsements thereon.

Respectfully yours,

W. WINDOM,
Secretary.

FEB'Y 17, 1890.

Secretary of the Treasury incloses certified copy of paid and canceled check No. 28,673, drawn Oct. 26, '78, upon asst. treas'r U. S. at New York, by H. W. Howgate 1st lieutenant and disb'g officer, to order of the treasurer Gold and Stock Teleg. Co., for \$1,644.00.

DEPARTMENT OF THE INTERIOR,
Feb'y 19, 1890.

Respectfully referred to the Commissioner of Patents.

E. M. DAWSON,
Chief Clerk.

H. C. D.

Copy.

[Vignette.]	No. (28673.) WAR SIGNAL SERVICE, <i>Washington, D. C., Oct. 26, 1878.</i> 'A. ASSISTANT TREASURER OF THE U. S., New York:
State objects for which drawn. Telephones. New York City.	Pay to the order of R. H. Rochester, treasurer Gold and Stock Telegraph Company, sixteen hundred and forty-four ⁰⁰ / ₁₀₀ dollars. \$1,644. 00 Paid Oct. 31, 1878. New York. (Signed) H. W. HOWGATE, <i>1st Lieut. and Disbursing Officer.</i> Engraved and printed at the Bureau Engraving and Printing.

(Indorsed :) R. H. Rochester, treas. Gold and Stock Tel. Co. Deposited in the Bank of New York, National Banking Association, to credit of Gold and Stock Tel. Co. R. H. Rochester, treasurer. E. G. Mason, A. C. A. S.

OFFICE OF ASSISTANT TREASURER U. S.,
New York City, February 15, 1890.

I hereby certify that the foregoing is a true copy of check No. 28,673 dated Washington, D. C., October 26, 1878, drawn by 1st Lieut. H. W. Howgate, disbursing officer U. S. Signal Service, to the order of R. H. Rochester, treasurer Gold and Stock Telegraph Company, and of the indorsements thereon.

E. H. ROBERTS,
Asst. Treas. of the U. S. at New York.

In the original a fac-simile of the following names is given, with certificate added :

R. H. ROCHESTER,
Treas. Gold and Stock Tel. Co.
E. G. MASON,
A. C. A. S.

OFFICE OF ASST. TREAS'R U. S.,
New York, Feb'y 15, 1890.

I hereby certify that this is a tracing of the written indorsements on check number 28,673, drawn by H. W. Howgate, lieut. and dis. officer

310 EXHIBIT C. A. ARTHUR CONTRACT AND LETTERS.

U. S. Signal Service, Oct. 26, 1878, in favor of R. H. Rochester, treasurer Gold and Stock Telegraph Company, for \$1,644.

E. H. ROBERTS,
Asst. Treasurer U. S. at New York.

UNITED STATES OF AMERICA,
TREASURY DEPARTMENT,
March 5th, 1889.

Pursuant to section 882 of the Revised Statutes, I hereby certify that the annexed is a true copy of a contract dated July 2, 1878, between the Gold and Stock Telegraph Company and C. A. Arthur, collector of customs at the port of New York, N. Y., and letters dated July 2d and 5th, 1878, relating thereto, having been duly compared with the original papers on file in this Department.

In witness whereof I have hereunto set my hand and caused the seal of the Treasury Department to be affixed on the day and year first above written.

[SEAL.]

W. WINDOM,
Secretary of the Treasury.

In re Drawbaugh. Public use proceedings. Exhibit C. A. Arthur
Contract and Letters. Mch. 21, 1890. C. E. D., N. P.

[Form No. 129.]

This agreement, made this second day of July, one thousand eight hundred and seventy-eight, by and between the Gold and Stock Telegraph Company, a corporation duly organized under the laws of the State of New York, party of the first part, and C. A. Arthur, esq., collector U. S. customs, New York, party of the second part—

Witnesseth: That said party of the first part is to furnish, within thirty days from the date hereof, for the use of the said party of the second part, a telegraph wire connecting the surveyor's office with the barge office No. 119 and 303 West st. and No. 184 Christopher st., New York, in one circuit; also to connect the surveyor's office with No. 175 Front st. and No. 612 Grand st., New York, and Roberts stores and Battie stores, Brooklyn, with cable wire under the East River, in another circuit. Will also furnish carbon telephones at each of the herein-named localities, being ten (10) in all, and to maintain the same in good working order at their own proper cost and expense during the continuance of this agreement.

In consideration of the above stipulations and agreements the party of the second part agrees, upon the establishment of telephonic communication by the said line, to pay to the said party of the first part the sum of eighty-five (\$85.00) dollars, as rent for said wire and instru-

ments, at the end of each and every calendar month after the date when such communication shall have been established, the proper *pro rata* deduction being made for the part of the first month (if any) which may elapse before the completion of the line.

The conditions of this lease are: That the lessee shall take good care of the said telephones and call-bells and all appurtenances thereof, and shall on the termination of the tenancy deliver the same to the lessor, or their proper agent, in as good condition, ordinary wear excepted, as when received; that said telephones shall not be used for the transmission of messages for hire, nor on any other line than that hereinbefore mentioned; that this lease shall not be assigned, nor the possession or use of said telephones transferred, to any other party; that, in the event of telegraphic communication being interrupted on said line, the lessee shall immediately notify the lessor, who shall restore the same without unreasonable delay, and for that purpose, and for the purpose of inspecting the same, are, by their proper agents, to have access to the same at all reasonable times; that in case of any violation of these conditions, or on default in the payment of rents, the lessor by their proper agents may enter upon the premises where said telephones and call-bells may be, and take possession of the same, and the lessee shall have no claim for repayment of any rent which may have been paid in advance therefor. In case of destruction or loss of said telephones or call-bells during the continuance of the tenancy, without the fault of the lessor, the lessee agrees to pay for the same the agreed price of \$20.00 for each hand telephone, \$40.00 for each box telephone, \$15.00 for each call-box, and \$75.00 for each telephone and call-box combined, so lost or destroyed.

This agreement shall remain in full force for and during the period of three years from the time at which said line and instruments were delivered to said party of the second part in good working order, as aforesaid.

THE GOLD AND STOCK TELEGRAPH CO.,

[SEAL.]

By GEORGE WALKER, V. P.

The Gold and Stock Telegraph Co.

C. A. ARTHUR,

Collector of Customs, Port and District of New York.

Attest:

J. D. REID, *Sec.*

(Indorsed:) Gold and Stock Telegraph Co. Telephoneline. Contract for 3 years. July 2, 1878. No. ——. \$85 per month, with surveyor's office and connections. Expires July 2d, 1881. Date ———, 187—.

GOLD AND STOCK TELEGRAPH COMPANY,

WESTERN UNION BUILDING,

New York, July 5th, 1878.

Hon. C. A. ARTHUR:

DEAR SIR: We have engaged in our contract to give you the Edison telephone, which is the best yet invented for difficult city lines.

We cannot engage beforehand to give you what we have not got, and the cost of which, if we ever sho'd get anything better, is entirely problematical. Although we are entitled to all Edison's future inventions in telephones, we are required to pay for them at an appraised valuation. We shall always desire to give the Gov't the best instrument which we have, and if we can afford to substitute new inventions for those now in use we shall do it without pay, and at all events on the best admissible terms.

We have never made such an engagement as you ask us to make, and I think on reflection you will see that it could not properly be expected of us.

Respectfully yours,

GEORGE WALKER, *V. P.*

Should it become necessary to change the office at either of the designated localities in the accompanying contract during the continuance thereof, if the distance is not greater than one-fourth of a mile, such change will be made by the Gold and Stock Tel. Co., charging therefor only the cost of labor and material necessary for such change.

New York, July 2, 1878.

THE GOLD AND STOCK TELEGRAPH CO.,
By GEORGE WALKER, *V. P.*

UNITED STATES OF AMERICA,
TREASURY DEPARTMENT,

March 3d, 1890.

Pursuant to section 882 of the Revised Statutes, I hereby certify that the annexed are true copies of the original letters on file in this Department.

In witness whereof I have hereunto set my hand and caused the seal of the Treasury Department to be affixed on the day and year first above written.

[SEAL.]

W. WINDOM,
Secretary of the Treasury.

In re Drawbaugh. Public use proceeding. Exhibit Treasury Department Letters. Mch. 21, 1890. C. E. D., N. P.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, D. C., June 26th, 1878.

COLLECTOR OF CUSTOMS,
New York City, N. Y.:

SIR: Referring to a letter of the 29th ultimo, of Surveyor Merritt, approved and forwarded by you, inclosing proposals for connecting the customs-house with the several weighers' offices and the barge office by

a private telephone line, you are hereby authorized to accept the lowest bid, that of the Gold and Stock Telegraph Company, to supply and keep in good working order for a period of three years a telephone line, cable wire, and combination and hand telephone, at and between the several places named herein, at an annual rental of one thousand and twenty dollars, payable monthly, from the appropriation for defraying the expenses of collecting the revenue from customs, and upon the following conditions, viz: connecting by telephone line offices in the custom-house with the barge office at the Battery, Nos. 119 and 303 West street, New York, in one circuit; also connecting the custom-house with No. 175 Front street and No. 612 Grand street, New York, and Roberts stores and Battie stores, Brooklyn, with cable wire under East River, in another circuit.

Should it become necessary to change the office at either of the above designated localities at any time during the term of the contract, if the distance is not more than one-quarter of a mile, such change is to be made by the Gold and Stock Telegraph Co., charging therefor only the actual cost of labor and material necessary for the change.

Very respectfully,

JOHN B. HAWLEY,
Assistant Secretary.

THE TELEPHONE COMPANY OF NEW YORK,
32 TRIBUNE BUILDING,
New York, March 25th, 1878.

Gen'l MERRITT,

Surveyor of the Port, New York:

DEAR SIR: We beg to present to you the following estimates for consideration:

No. 1—From custom-house to 175 South st. and 712 Grand st., N. Y	\$320
No. 2—From custom-house to Roberts stores and Hamilton Ferry, Br'klyn...	575
No. 3—From custom-house to 119 West, 303 West, and 184 Christopher st	510
No. 4—From custom-house to barge office.....	140

Total rental per year.....	\$1,545
----------------------------	---------

Based on a contract for 3 years, this company to maintain and keep the lines and machinery in good order. If the four lines are taken at once, we will make one estimate cover all, and do it for \$1,500 per year.

Very respectfully,

THE TELEPHONE COMPANY OF NEW YORK,
By W. K. APPLEBAUGH, *Gen'l Supt.*

P. S.—All lines to be equipped with speaking telephone and call-bells.

W. K. A.

GOLD AND STOCK TELEPHONE COMPANY,
WESTERN UNION BUILDING,
New York, May 25th, 1878.

Gen'l E. A. MERRITT,
Surveyor of the Port of New York :

This company will contract to build within thirty days from acceptance of this proposition, for the use of the United States Government, in the cities of New York and Brooklyn, a private telephone line, connecting offices in the custom-house with the barge office at the Battery, Nos. 119 and 303 West st., and No. 184 Christopher st., New York, in one circuit.

Also to connect the custom-house with No. 175 Front st. and No. 612 Grand st., New York, and Roberts stores and Battie stores, Brooklyn, with cable wire under the East River, in another circuit; will also furnish one combination and one hand telephone at each of the (10) above-specified localities, and will maintain and keep in repair said line, cable wire, and instruments, on a contract for three years, at an annual rental of one thousand and twenty dollars, payable monthly.

Should it become necessary to change the office at either of the above designated localities at any time during the term of the contract, if the distance is not more than one-quarter of a mile, such change will be made by this company, charging therefor only the cost of labor and material necessary for such change.

Respectfully yours,

GEORGE WALKER,
Vice-Prest.

P. S.—Will give the same service with telegraphic printing instruments for sixteen hundred and eighty dollars per annum.

CUSTOM-HOUSE, NEW YORK CITY,
Surveyor's Office, May 29th, 1878.

SIR: Referring to my letter addressed to you and dated April 25, 1878, in which I set forth the reasons which make it desirable that the custom-house should be connected with the several weighers' offices and the barge office by a telephone, and in which I stated that the probable expense thereof would not exceed fifteen hundred dollars per annum, I have to state that this estimate was based upon a proposal made by the Telephone Company of New York, dated March 13, 1878, which is herewith forwarded.

I have also to transmit to you an offer, dated May 25, 1878, made by the Gold and Stock Telegraph Company, to furnish and maintain the telephone lines and instruments to and at the places indicated for three years, and for the sum of one thousand and twenty dollars per annum, payable monthly.

If the proposed contract is made, it will enable me to assign the night watchman, who is now detailed as telegraph operator at the barge office, to duty on the night watch, adding to that force an additional man, but not exceeding the limit of the number allowed at this port.

It is desirable that action should be taken upon these propositions as soon as practicable, and I beg your early consideration of the subject.

Very respectfully your obd't servant,

E. A. MERRITT,
Surveyor.

Gen'l C. A. ARTHUR,
Collector.

In re Drawbaugh. Public use proceeding. Exhibit Health Department Contract. Mch. 21, 1890. C. E. D., N. P.

[Form 125.]

THE GOLD AND STOCK TELEGRAPH COMPANY,
GENERAL OFFICES, WESTERN UNION BUILDING, NEW YORK.

The undersigned hereby makes application to said company to lease to them for the term of one year from the date of this application five Edison telephones and sounders, to be used in connection with a telegraph line between No. 51 East 54th st., 4th ave. and 50th st., No. 56 East 34th st., No. 51 East 25th st., and No. 301 Mott st., New York, and agrees to pay therefor for their use and maintenance the sum of two hundred dollars per year, payable monthly during the term aforesaid, and any extension of the same which may be made by indorsement hereon, or otherwise.

The conditions of this lease are: That the lessee shall take good care of the said telephones and call-bells and all appurtenances thereof, and shall on the termination of the tenancy deliver the same to the lessor, or its proper agent, in as good condition, ordinary wear excepted, as when received; that said telephones shall not be used for the transmission of messages for hire, nor on any other line than that hereinbefore mentioned; that this lease shall not be assigned nor the possession or use of said telephones transferred to any other party; that the lessor is to keep the same in good working order, and for that purpose, and for the purpose of inspecting the same, is, by its proper agents, to have access to the same at all reasonable times; that in case of any violation of these conditions, or on default in the payment of rent, the lessor by its proper agents may enter upon the premises where said telephones and call-bells may be, and take possession of the same, and the lessee shall have no claim for repayment of any rent which may have been paid in advance therefor. In case of destruction or loss of said telephones or call-bells during the continuance of the tenancy, without the fault of the lessor, the lessee agrees to pay for the same the agreed price of \$20.00 for each hand telephone, \$40.00 for each box telephone, \$15.00

for each call-box, and \$75.00 for each telephone and call-box combined, so lost or destroyed.

Dated at New York this ninth day of July, 1878.

C. F. CHANDLER,
President Health D'p't.

Accepted and agreed to on behalf of the Gold and Stock Telegraph Co.

_____,
Agent.

(Indorsed:) Health department. Telephones. No. 60. Gold and Stock Telegraph Company. Application of _____. Approved 9 July, '78.

In re Drawbaugh. Public use proceedings. Chandler's Application and Contract with the Gold and Stock Company. C. E. D.

NEW YORK, *July 9th*, 1878.

It is hereby agreed between the Gold and Stock Telegraph Co. and the commissioners of the health department of the city of New York that the said company will build and sell to the said commissioners an independent telephone wire upon housetops, the right of way for which will not be guaranteed by said Gold and Stock Tel. Co. The said wire is to connect the offices of the health department, 301 Mott st., 51 East 25th st., 56 East 34th st., 4th ave. and 50th st., and 51 East 54 st., New York.

The commissioners of the health department hereby agree to purchase and receive, when completed, from the Gold and Stock Tel. Co., said telephone wire, and to pay therefor the sum of three hundred and seventy-five dollars.

The Gold and Stock Tel. Co. will, if desired, whenever notified in writing, make any necessary repairs upon said line, charging therefor a reasonable sum for the time, labor, and material required.

THE GOLD AND STOCK TELEGRAPH CO.,
By GEORGE WALKER, *V. P.*
C. F. CHANDLER,
President Health Department.

In re Drawbaugh. Public use proceeding. Exhibit Additional Letters from the Records of the Gold and Stock Company. Mch. 22, 1890. C. E. D., N. P.

MAY 25TH, '8.

Gen'l E. A. MERRITT,
Surveyor of the Port of New York:

This company will contract to build within thirty days from acceptance of this proposition, for the use of the United States Government,

in the cities of New York and Brooklyn, a private telephone line, connecting offices in the custom-house with the barge office at the Battery, Nos. 119 and 303 West st., and No. 184 Christopher st., New York, in one circuit.

Also to connect the custom-house with No. 175 Front st. and No. 612 Grand st., New York, and Roberts stores and Baltic stores, Brooklyn, with cable wire under the East River, in another circuit. Will also furnish one combination and one hand telephone at each of the (10) above-specified localities, and will maintain and keep in repair said line, cable wire, and instruments, on a contract for three years, at an annual rental of one thousand and twenty dollars, payable monthly.

Should it become necessary to change the office at either of the above designated localities at any time during the term of the contract, if the distance is not more than one-quarter of a mile, such change will be made by this company, charging therefor only the cost of labor and material necessary for such change.

Respectfully yours,

GEORGE WALKER, *Vice-Pres't.*

P. S.—Will give the same service with telegraphic printing instruments for sixteen hundred and eighty dollars per annum.

G. W., V. P.

[Extract from letter in book No. 6, p. 228.]

APRIL 4TH, '8.

Hon. DAN'L L. HARRIS,
Sec'y Eastern R. R. Association :

DEAR SIR:

* * * * *

The facts are that the American Speaking Telephone Co., of which I am prest., is organized under the auspices of the W. U. and G. and S. Tel. Cos. to introduce the telephonic inventions and apparatus of Gray, Edison, Dolbear, Phelps, and others, all of whom are in competition with Prof. Bell as to priority of inventions. We have the strongest confidence in the controlling character of the inventions owned by our co.

* * * * *

Yours very truly,

GEORGE WALKER, *Vice-Prest.*

[Book No. 7, p. 4.]

N. Y., May 27.

GEO. S. LADD,
San Francisco :

How many hand telephones do you wish to make for early wants? Yours is better than Phelps' duplex, but he has lately got out a new

one better than yours and no dearer, and we begin to-day to make the Edison, which, on W. U. wires and where there is much induction, is superior to all and cheaper. For these reasons we wish to keep down production to actual wants. Will answer about stock-printers Wednesday.

GEO. WALKER, V. P.

D. H. C. N. D.

[Book No. 7, p. 16.]

N. Y., May 28.

GEO. S. LADD,

Pres't, San Francisco, Cal.:

You may order two hundred telephones like samples sent me. Think they ought not to cost more than three fifty. Phelps duplex cost here three ten. Will send his new one in few days and pair Edison's soon as possible.

G. WALKER, V. P.

D. H. C. N. D.

[Book No. 7, pp. 61-2.]

JUNE 1ST, '8.

ENOS M. BARTON, Esq.,

Sec'y W. E. Mfg. Co., Chicago:

DEAR SIR: I rec'd your telegram yesterday stating that there still remained to be delivered out of our last order to you about 750 telephones and 350 call-boxes. Have all these insts. been begun, or can work on them or any part of them be stopped without a considerable loss? I am disinclined to have any more of the Gray bipolar made, as they are certainly no better than the Phelps duplex and Phelps new "centipede," and Ladd's California insts. are certainly better than either, and both a good deal less costly than Gray's. Your call-boxes also are not in favor. Please suspend active work on this last order till I can hear from you, though not at the risk of discharging help.

Yours very truly,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, pp. 53-4.]

JUNE 1ST, '8.

E. W. BARNES, Esq.,

Agent Gold and Stock Tel. Co., New Orleans, La.:

DEAR SIR: Mr. Boffinger, pres't of the District Co. in your city, writes on the 14th ult., desiring to take charge of and introduce the

Edison carbon telephone into New Orleans. I have written to him to-day that the Edison telephone is not yet ready for the market, but that we are about giving a moderate order and expect to have the instruments in stock in the course of a few weeks. I have suggested to him that it may not be deemed expedient for us to part with the control of the Edison in your city.

We have recently favored the policy of combining our private-line and telephone interests in different cities with the local district companies. Where we intend to do anything in private lines this course seems advisable, from the fact that with the telephone the two systems approach each other much more nearly than when we used printers only. If the business in New Orleans is large enough to justify such a local company we should favorably consider the organization of one. I have suggested it to Mr. Boffinger and asked him to confer with you on the subject, and, if disposed, to furnish me with the necessary data respecting his company, from which I should be able to judge of the value of its co-operation. I should be glad to hear from you also, either before or after seeing him upon this subject.

Respectfully yours,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, p. 66.]

N. Y., *June 4.*

R. C. CLOWRY,
St. Louis :

It will be several weeks before I can send you any Edisons.

GEO. WALKER.

D. H. C. N. D.

[Book No. 7, pp. 68-9.]

JUNE 4TH, '8.

D. B. PENN, Esq.,
Ebbitt House, Washington, D. C. :

DEAR SIR: In reply to yours of the 3d inst., addressed to the president of the Western Union Telegraph Co., I beg to say that the control of the Edison telephone, when ready for the market, will be in the hands of this company. We expect to have a small quantity of the instruments in stock in the course of a few weeks.

No arrangements have yet been made for the introduction of it in New Orleans, but our usual method of introduction is through the representatives of the Western Union Tel. Co. in each locality.

Some correspondence with reference to the Edison telephone has already been had between this office and the president of the New Or-

leans Am. Dist. Tel. Co., as well as with Mr. Barnes, the manager of the W. U. Company in that city. I think it is probable that we shall either keep it in our own hands or organize a new company, perhaps with the co-operation of the District Company, for the purpose of carrying on our whole private-line service, including the use of the telephone. Whether or not you could advantageously co-operate in such a movement I am of course unable without further information to determine, nor whether it would be agreeable for you to do so.

I shall probably hear from Mr. Boffinger and Mr. Barnes in the course of a fortnight, and if you should be in New York after that time I sh'd be glad to see you.

Respectfully yours,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, p. 75.]

JUNE 4TH, '8.

Prof. ANDRE,

Everett House, New York:

DEAR SIR: I am in receipt of a telegram from Mr. W. C. Dryer, requesting that a telephone of Edison's patent be sent to you this evening. I have telegraphed him, and beg now to confirm the dispatch to you, that we have not and shall not for several weeks have any Edison telephones.

Regretting that it is thus impossible to comply with Mr. Dryer's request, I am,

Yours respectfully,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, p. 112.]

JUNE 7TH, '8.

W. A. JACKSON, Esq.,

Electrician Michigan Dist. Tele. Co., Detroit, Michigan:

DEAR SIR: In reply to yours of the 1st inst., I beg to say that we will wait for the instruments mentioned until you have procured a new lot, when I beg that you will send them to me.

We are now manufacturing the Edison, and also a new telephone by Mr. Phelps, which is far superior to any other magneto that has ever been produced to our knowledge. We hope to have both of these instruments in stock in the course of a few weeks.

Yours respectfully,

GEORGE WALKER,
Vice-President.

[Book No. 7, pp. 130, 131.]

JUNE 11TH, '8.

WHITELAW REID, Esq.:

DEAR SIR: We do not build lines, either for sale or rental, to be equipped with instruments which are in competition with our own. There is scarcely any profit in it aside from instrument rentals. If, therefore, the line which you inquire about in your letter of the 7th is, as I conjecture, to be equipped with Bell telephones, I am not at liberty to build it, either for sale or rental, for that purpose. We will build and rent it to you for \$50 a year if you will hire our telephones at the usual prices. We have a very superior instrument combining telephone and call in one box, which we will rent to you at \$37.50 an office, keeping line and instruments in order at these prices. We are now beginning to make the Edison carbon telephone, which we believe is destined to lead all others for city use. If you should conclude to take the line and instruments from us on a contract for not less than a year, we will substitute the Edisons when we have them in stock if, after trial, you should prefer them to the combination.

Yours very truly,

GEORGE WALKER, *Vice-Prest.*

Line rental	50
Telephone do.....	75
	\$125

[Book No. 7, pp. 148-9.]

JUNE 13TH, '8.

E. W. ANDREWS, Esq.,

Prest. Am. Dist. Tel. Co., New York:

DEAR SIR: I laid before our executive committee to-day your suggestions respecting a proposition for the introduction of the telephone to the representatives of the several district companies to be in session in this city to-morrow.

The committee were of opinion that no general proposition could be made, inasmuch as the conditions of the several cos. and of our own business in the cities where they are located materially differ; but I was requested to say to you, and to request you to say to the gentlemen present at the meeting, that it is the desire of this company to co-operate with district cos. wherever located, and that terms will be made for the use of our telephones on a liberal basis.

Respectfully yours,

GEORGE WALKER, *Vice-Prest.*

7083 TEL—21

[Extract from letter in book No. 7, pp. 162 to 165.]

JUNE 14TH, '8.

JAMES S. WALKER,
Sec'y Mich. Dist. Tel. Co., Detroit:

DEAR SIR: * * * We are preparing a descriptive circular giving cuts of all our best inst's, including the Edison and the new Phelps *crown* telephones, which I may have described to you as the "centipede." It is the most powerful magneto inst. I have ever seen, both in the hand and double form, the latter corresponding to a box telephone.

We are now using the Edison over our line to 23d st., the office there being at the junction of 5th av. and B'way, one of the noisiest places in N. Y. We talk over it in a lower than ordinary tone with perfect distinctness, though it is near printer lines full of induction, and the noise on it is very great.

I am momentarily expecting a delegation of the representatives of Am. dist. cos., who are now in convention here, and whom I have invited to witness an exhibition of our inst's this afternoon.

We have ordered 750 Edisons (all transmitters), and expect to have *some* of them within a fortnight. You shall have a set just as soon as I can manage it.

Yours very truly,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, p. 166.]

JUNE 14TH, '8.

T. B. A. DAVID, Esq.,
Pittsburg, Penn.:

DEAR SIR: Yours of the 10th was duly received.

The Edison telephones are coming, but how long it will take them to get here I am not certain. Phelps has an order for 500. Edison is making 25 in Philadelphia, and Barton has an additional order for 250. Out of them all I should think we ought to have a moderate quantity within 3 weeks, but to meet the very great demand which is now indicated this will be but a drop in the bucket.

As soon as possible you shall have a set, and I will put your name down for that purpose.

Yours very truly,

GEORGE WALKER, *Vice-Pres't.*

Phelps call-boxes reduced to \$15 and Chicago box to \$12.50 to-day.

We are working it with perfect success on our 23d-st. line to-day—a very hard line.

[Book No. 7, pp. 194-5.]

JUNE 17TH, '8.

E. GRAY, Esq.,

Chicago, Ills. :

DEAR SIR : In reply to yours of the 13th, I beg to say that I recently rented a pair of the Phelps combination telephones to an exhibitor for six months at about 5-6 of the annual rental, cash, payable in advance. I am willing that General Stager shall let your applicant have 12 or 15 telephones upon similar terms. I give Gen. Stager discretion to fix the exact rate after a full consideration of the circumstances. Something more than a pro rata w'd seem to be reasonable. I am sorry to hear of your being out of health.

The trial of the Edison carbon telephone which we made here Friday and Saturday of last week over a line to our old 23d-st. office was very satisfactory, and we anticipate being able to use it on lines anywhere in the thickest part of the city without trouble from induction.

Yours very truly,

GEORGE WALKER, *Vice-Pres't.*

[Extract from book No. 7, pp. 196 to 199.]

JUNE 17TH, '8.

GEO. S. LADD, Esq.,

Pres't G. and S. Telegraph Co., San Francisco, Cal. :

DEAR SIR : * * * We have, within a few days, made very satisfactory experiments with the Edison carbon telephone, using it to our Twenty-third-street office over a line much troubled by induction, and employing a tone of voice below that of ordinary conversation. If there should, in practice, prove to be no difficulty in keeping the instruments properly adjusted, we think the problem of its success is solved, and that it must take the place of every other instrument on lines heavily charged with electrical disturbance.

* * * * *

Very truly yours,

GEORGE WALKER, *V. P.*

J. R. BEACH.

[Book No. 7, p. 205.]

N. Y., *June 18.*

L. WHITNEY,

Washington :

If you know where the Edison telephone is which was used the other night on a wire to Jersey City, please get it and return it to me to-night.

It went there under a mistake. I consented to a pair being used for an evening at Jersey City, and have only just learned that I signed authority to use it at Washington, which was never, to my knowledge, asked for. Please answer.

GEORGE WALKER, *Vice-Pres't.*

D. H. C. N. D.

[Book No. 7, p. 222.]

JUNE 19TH, '8.

R. C. CLOWRY, Esq.,

A. G. Sup't W. U. Telegraph Co., St. Louis, Mo.:

DEAR SIR: In reply to yours of the 17th, just received, I beg to say that we have, within the last day or two, received a few pairs of Edison telephones, but only enough to enable us to exhibit them to the public in this city. We expect to have more of them in the course of the next week, and I will endeavor to get you out two or four of them. You need only transmitters, as any hand telephone answers perfectly well as a receiver.

Yours respectfully,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, pp. 236-7-8.]

JUNE 21ST, '8.

H. McCOLOH, Esq.,

General Mgr. Am. Dist. Tel. Co., Baltimore:

DEAR SIR: Yours of 19th is rec'd.

We will rent the Phelps duplex hand telephone to your co. for use on its circuits at five dollars each per annum, free of all commissions, charges, and expenses; terms cash on delivery of the insts. in this city; the instruments to be kept in repair by you, or at your expense, and returned in good order at the end of the rental. The use of these instruments is to be confined to district circuits as now used, and is not to be extended to private lines equipped with separate wires to each customer, with or without a connecting central office.

Though I make a price, as above, only on the Phelps duplex instrument, we shall be prepared to make a reasonable price for the Edison *carbon* or Phelps *crown* telephones, to be limited to the uses stated, as soon as we have a sufficient supply of those instruments and data upon which to predicate prices.

We should probably be willing to extend the same terms to the Am. Dist. Co. of Washington. I had learned from another quarter that Mr. McIntire was the proper party with whom to negotiate and that he

had the control of the Wash. co. Is he acting in concert with Mr. Foster, and is Mr. A. G. Davis a party in interest or influence in that co.? I shd. like to ascertain its exact status and know whom we were to deal with before making a positive offer to the Wash. co.

I am inclined to believe that Washington might be a good point for a dist. and private line co., combining our interests with those of the Dist. Co. We are making such combinations in several cities.

Respectfully yours,

GEORGE WALKER, *Vice-Prest.*

[Book No. 7, pp. 246 to 248.]

JUNE 24TH, '8.

R. NEWELL, Esq.,

Agent Gold and Stock Tel. Co., Buffalo, N. Y.:

DEAR SIR: I duly received yours of the 21st, which is entirely satisfactory. Getting no reply to my letter of the 12th, which asked for a statement of the telephone business you had done, with a view to fixing your commission, I had feared that you were dissatisfied at the failure of the committee at once to fix your commission at 20 per cent., and learning that you had rendered no report, I concluded that you had ceased to take an interest in the telephone business. Your letter entirely removes this misconception, and shows me that you have done all that it was possible for you to do consistently with your other arduous duties. Your first start was so encouraging that I had hoped business would continue prosperous. I fully appreciate your efforts in getting up the line for sporting news, and have to-day authorized the payment for extra services which you recommend in your letter to Mr. Ludwig.

In respect to the matter of commission, I will bring it up at the first meeting of our committee and try to have it settled.

Our new telephones, the Edison carbon and the Phelps crown, are so superior to any others heretofore in the market that I feel confident we shall take the market as soon as we get a sufficient number of them to distribute to our agents. I will, as soon as possible, advise you more in detail in respect to this matter.

Yours very truly,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, p. 252.]

N. Y., June 24.

JNO. S. LADD,

San Fran.:

Will ship ten Phelps combination boxes at once by R. R. Will send Edison by express in few days.

G. WALKER, *V. P.*

D. H. C. N. D.

[Book No. 7, p. 273.]

JULY 1, '8.

THOS. A. EDISON, Esq.,
Menlo Park, N. J. :

DEAR SIR: In reply to yours of the 28th, we are of opinion that the microphone is undoubtedly covered by your contract with the W. U. Co.

Yours truly,

GEORGE WALKER, V. P.

[Book No. 7, pp. 293-4.]

JULY 5, '8.

Hon. C. A. ARTHUR:

DEAR SIR: We have engaged in our contract to give you the Edison telephone, which is the best yet invented for difficult city lines. We cannot engage beforehand to give you what we have not got, and the cost of which, if we ever sh'd get anything better, is entirely problematical. Although we are entitled to all Edison's future inventions in telephones, we are required to pay for them at an appraised valuation. We shall always desire to give the Gov't the best instruments which we have, or if we can afford to substitute new inventions for those now in use we shall do it without pay, and at all events on the best admissible terms.

We have never made such an engagement as you ask us to make, and I think on reflection you will see that it could not properly be expected of us.

Respectfully yours,

GEORGE WALKER, V. P.

[Book No. 7, pp. 304, 5.]

JULY 6TH, '8.

N. DE BREE, Esq.,

Agent G. and S. Telegraph Co., Baltimore, Md. :

DEAR SIR: I have yours of the 2d, inclosing a letter from Messrs. James S. Gary & Son, in reference to the telephones on their line. Please say to them that we are just beginning to manufacture the Edison carbon telephone, which is especially adapted to long lines like theirs, and that if they will wait until we get it out we will substitute it for the hand telephones which they now have. We cannot afford to make this offer, as the Edison will be more expensive than the hand telephones, but we should be glad to make a demonstration with the new carbon telephone on a line such as theirs.

Tell them that with these instruments we have worked successfully between New York and Philadelphia, and between Philadelphia and Washington, over Western Union lines, where no other telephone could have been audible.

Yours respectfully,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, p. 346.]

JULY 15, '8.

J. J. S. WILSON, Esq.,

Supt. W. U. Telegraph Co., Chicago, Ill.:

DEAR SIR: Yours of the 12th is received.

The renting price of the Edison telephone as made by Mr. Phelps, and containing one transmitting telephone, Morse key and sounder, and induction-coil, covered by a small desk for the key, and either a Gray bi polar or Phelps duplex as a receiver, is \$25 a year without battery. We estimate the cost of battery with from two to four cells gravity, including battery-box maintenance and inspection, at from \$14 to \$18 per annum for each office.

We presume that this cost can be dispensed with where the telephones are introduced upon railway wires served with battery, and it may be that the cost of the key and sounder can also be saved.

We shall be glad to have Mr. Barton make an estimate of the cost of the Edison instruments in just such shape as your railway customers may want them.

Respectfully yours,

GEORGE WALKER, *Vice-Pres't.*

[Book No. 7, p. 378.]

N. Y., *July 19, 1878.*

E. M. BARTON,

Chicago, Ill.:

Phelps offers to make one hundred Edison carbon transmitters without induction-coils or any other appendages for three dollars each, like the sample furnished you by him.

We will give you the order at the same price—the instruments to be furnished to the A. D. T. Co. of Chicago.

If you accept, answer.

GEORGE WALKER, *V. P.*

D. H. C. N. D.

[Book No. 7, p. 423.]

JULY 24TH, '8.

N. DE BREE, Esq.,

Agent Gold and Stock Telegraph Co., Baltimore, Md.:

DEAR SIR: I have received from you Mr. Bauer's letter of the 20th inst., recommending that we place our telephones on exhibition at the Maryland Institute in October. We shall be very glad to do so, and shall by that time have a full line of the Phelps combination, crown, and Edison instruments. I observe that it will not be necessary to make the application until the 14th of September. If you do not hear from me prior to the 1st of September, please remind me of this.

Respectfully yours,

GEORGE WALKER, *Vice-Prest.*

J. R. BEACH.

[Book No. 7, p. 429.]

JULY 25TH, '8.

N. DE BREE, Esq.,

Mngr., Baltimore, Md.:

DEAR SIR: Yours of the 24th is received.

The cost of the Edison for seven stations is, as you have stated, \$175, or \$25 per station, for the instruments; but the charge for battery is \$18 for each office, and not for all the offices, as you seem to have considered.

We cannot make the charge for two offices alone, instruments, battery, and maintenance, less than \$50 each; but, considering that there are seven offices on this line, we will put in the battery and battery equipment and maintenance at its actual cost.

Respectfully yours,

GEORGE WALKER, *Vice-Prest.*

Appln. Drawbaugh. Public use proceedings. Exhibit C. L. Wright & Co. Contract. Jan. 31, '90. C. E. D., N. P.

[Form No. 129.]

This agreement, made this first day of July, one thousand eight hundred and seventy-eight, by and between the Gold and Stock Telegraph Company, a corporation duly organized under the laws of the State of New York, party of the first part, and Messrs. Charles L. Wright & Co., of New York, party of the second part—

Witnesseth: That said party of the first part is to furnish, within thirty days from the date hereof, for the use of the said party of the

second part, a telegraph and cable wire connecting their office, No. 56 South st., New York, and Eagle pier, Hoboken, New Jersey, with one speaking telephone at each of the above-named localities, and to maintain the same in good working order at their own proper cost and expense during the continuance of this agreement.

In consideration of the above stipulations and agreements the party of the second part agrees, upon the establishment of telephonic communication by the said line, to pay to the said party of the first part the sum of fifty-five (\$55.00) dollars, as rent for said wire and instruments, at the end of each and every calendar month after the date when such communication shall have been established, the proper *pro rata* deduction being made for the part of the first month (if any) which may elapse before the completion of the line.

The conditions of this lease are: That the lessee shall take good care of the said telephones and call-bells, and all appurtenances thereof, and shall, on the termination of the tenancy, deliver the same to the lessor, or their proper agent, in as good condition, ordinary wear excepted, as when received; that said telephones shall not be used for the transmission of messages for hire, nor on any other line than that hereinbefore mentioned; that this lease shall not be assigned, nor the possession or use of said telephones transferred, to any other party; that, in the event of telegraphic communication being interrupted on said line, the lessee shall immediately notify the lessor, who shall restore the same without unreasonable delay, and for that purpose, and for the purpose of inspecting the same, are, by their proper agents, to have access to the same at all reasonable times; that in case of any violation of these conditions, or on default in the payment of rents, the lessor, by their proper agents, may enter upon the premises where said telephones and call-bells may be, and take possession of the same, and the lessee shall have no claim for repayment of any rent which may have been paid in advance therefor. In case of destruction or loss of said telephones or call-bells during the continuance of the tenancy, without the fault of the lessor, the lessee agrees to pay for the same the agreed price of \$20.00 for each hand telephone, \$40.00 for each box telephone, \$15.00 for each call-box, and \$75.00 for each telephone and call-box combined, so lost or destroyed.

This agreement shall remain in full force for and during the period of one year from the time at which said line and instruments were delivered to said party of the second part in good working order, as aforesaid.

[SEAL.]

THE GOLD AND STOCK TEL. CO.,
By GEORGE WALKER, V. P.
CHARLES L. WRIGHT & CO.

Attest:

JAMES D. REID, Sec.

NEW YORK, Dec. 23, 1878.

For value received we hereby assign and transfer the within contract to Messrs. Sanderson & Son from and after January 1st next, subject to the payment of the stipulated rental and all other conditions thereof.

CHARLES L. WRIGHT & Co.

Witness.

The Gold and Stock Telegraph Co. and said Sanderson & Son assent to the above.

GEORGE WALKER, V. P.
SANDERSON & SON.

(Indorsed:) No. 101 P. L. No. 2. Sanderson & Son's telephone line.
2689. # 2. Contract. Discontinued. L. Date, July 1, '78.

Bennett's Exhibit, Summers' Receipt. July 21, '90. W. J. S., N. P.

Sent by		GOLD AND STOCK TELEGRAPH CO.
Marked :	DUPLICATE.	Compare numbers, return to ——— ———.
C. H. Summers, Esq.,		Received from Co.'s Chicago supply department,
C. H. of.		———, 1874 :
6-27-78.		1 carbon telephone.
		# 5010. (Scribner.) Received by C. H. Summers. For ———.

Barton's Exhibit No. 1. July 23d, '90. W. J. S., N. P.

JUNE 5, 1878.

GEORGE WALKER,

Vice-President Gold and Stock Telegraph Co., New York:

DEAR SIR: Yours of June 1st in regard to suspending work on as many of the bipolar telephones and call-boxes as possible was duly received.

Of the entire number included in your order there are 530 telephones and 250 call-boxes so nearly completed that there is nothing to be saved by stopping work upon them.

There are 250 telephones and 100 call-boxes for which we have some of the material all out, some of the rubber pieces made, and some other preparations made towards completing them. On these I had the work suspended before I started east the last time. [Nine words illegible.]

We have been letting quite a number of our workmen go for the past week or ten days, and shall have to send away more unless we have new orders from some source.

I was anxious to get some of Edison's telephones and one of Phelps' centipedes, in hopes that there would be some work in making those instruments. At the present writing I have not so much reason to expect a sample of either kind as when I left New York.

Yours truly,

ENOS M. BARTON, *Sec'y.*

Barton's Exhibit No. 2. July 23, 1890. W. J. S., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
WESTERN UNION BUILDING,
New York, June 7th, 1878.

ENOS M. BARTON, Esq.,

Secy. Western Electric Mfg. Co., Chicago, Ill.:

DEAR SIR: Yours of the 3d inst., inclosing bills for 3,961.90, for telephones and call-boxes completed, for our account during the month of May, came duly to hand, and I telegraphed you to-day authorizing you to draw for the amount payable July 1st, 1878.

I have also yours of the 5th inst., stating that you have proceeded so far with our last order that it will be necessary to complete 800 telephones and 400 call-boxes, leaving 200 of the former and 100 of the latter upon which only a slight expenditure has been made. I have telegraphed you to do nothing further on these last instruments until further orders; also that Mr. Geo. H. Bliss has received from Edison two of his latest transmitting telephones for you under my order given at your request when you were here. I understand Mr. Bliss to say that Mr. Edison wishes you to make six telephones of this pattern and return them to him with a bid for the construction of a larger number; please do so.

I am hurrying up the completion of the first twenty *centipedes*, and have the promise of them within a week. Experiments made yesterday and to-day with a "double centipede" (which is merely two diaphragms put together into one rubber case) have been highly satisfactory. We talked over a line to the produce exchange with entire distinctness in spite of a very heavy induction. Bliss says he thinks the *centipede* by far the best telephone he ever heard.

Yours very truly,

GEORGE WALKER, *Vice Prest.*

(On the margin in pencil :) Bliss, did you say that?—E. M. B.

Barton's Exhibit No. 3. July 23, '90. W. J. S., N. P.

LABORATORY OF THOMAS A. EDISON,
Menlo Park, N. J., June 7th, 1878.

GEO. H. BLISS, Esq.,
Chicago, Ill.:

In manufacturing the telephones it will be necessary to observe the following instructions:

(1) Case must be japanned and the words "Edison's Carbon Telephone" cast on top, round the base of mouth-piece, where it can be plainly seen.

(2) The glass in the brass tube on diaphragm must be ground perfectly flat, and must be put in in the following manner: After the brass tube is soldered on, all the solder must be got out of the inside of the hole and when glass is put in be careful that it goes to the bottom and fits in the brass tight. After this is done, drop a single drop of pure shellac, softened by heat, into the bottom of the brass to hold it. Don't use ordinary sealing-wax for this purpose, as the telephone with continual talking gets a little warm and it might soften it.

(3) The screws that hold the telephone together must be nickel-plated and polished at both ends.

(4) In boring out the rubber that holds the carbon button be careful that the gauge does not go tight into it, and also that the shape of the hole does not alter when you take the rubber out of the chuck, as our carbons are so delicate that they will not allow of *crowding in*, but must drop in perfectly free without shake.

(5) The two platina surfaces must be perfectly flat.

(6) The diaphragm must have a coat of japan or varnish to protect it from moisture from the mouth.

By attending to the above instructions we shall have no difficulty in adjusting the telephones when they come here for their carbon buttons.

Very resp't'y yours,

CHAS. BATCHELOR, *Ass't.*

(On the margin :) E. M. B, please comply. Resp'fly, G. H. B. 6,
11, 78.

Barton's Exhibit No. 4. July 23, '90. W. J. S., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
WESTERN UNION BUILDING,
New York, June 11th, 1878.

ENOS M. BARTON, Esq.,
Sec'y, Chicago, Ill.:

DEAR SIR: At a meeting of the directors of this co. held to-day I was instructed to order from the Western Electric Company six Edison carbon telephones with Morse key and sounder and induction-coil, the

same to be delivered to and tested by Mr. Edison, and if found to be satisfactory to him and to this company I was authorized to increase the order to 250. I presume you have by this time received the two telephones sent to you by Mr. Edison through Mr. Bliss, and I hope that you will complete the six now ordered as rapidly as possible. It is the universal impression of our directors and of our leading agents in this neighborhood that the Edison instrument is the one which is destined to take the market in large cities, and we desire that you shall have the opportunity of showing how cheaply and well it can be made at your shops in competition with the Western Union Co., to which we have already given an order.

The order which I am thus authorized to make will, I trust, compensate you for giving up the last 200 bipolars and 100 call-boxes, upon which I desired you to suspend work in my letter of the 7th inst., particularly as this, if the instruments prove satisfactory, is likely to be followed by larger orders.

Yours very truly,

GEORGE WALKER,
Vice-Prest.

Barton's Exhibit No. 5. July 23, '90. W. J. S., N. P.

JUNE 13, 1878.

GEORGE WALKER,

Vice-President Gold and Stock Telegraph Co., New York :

DEAR SIR: We received last Saturday the sample Edison transmitter telephones and have the work on a half dozen of them now well started.

We are in hopes to have them completed by Saturday of this week.

Yours truly,

ENOS M. BARTON, *Sec'y.*

Barton's Exhibit No. 6. July 23, '90. W. J. S., N. P.

[Samuel S. White, dental depot, Chestnut street, corner of Twelfth, publisher of the Dental Cosmos, a monthly journal. Price, \$2.50, in advance.]

PHILADELPHIA, *June 15, 1878.*

ENOS M. BARTON, Esq.,

Sect'y Western Elect. Mfg. Co., Chicago :

DEAR SIR: A day or two since I wrote to Mr. Gray, but having since learned that he is sick I deem it important to write you direct in order that no time may be lost.

I have learned that Edison has furnished you with a pair of carbon transmitters as patterns for carbon telephones. At the last meeting of the board of directors of the Amer. Sp'k'g Tel. Co. a resolution was adopted, as you have doubtless been informed, giving you an order for 250 Edison transmitters.

As I informed Gen. Stager, who was present, and the other directors, I have learned that Edison is positive in his determination not to send the carbons to anybody to be put in the transmitters, but to have the latter sent to him that *he* may put in the carbon buttons and test the instruments in order to be sure that they are efficient. This may seem to you unnecessary, and perhaps unreasonable; but as a director, needing the instruments, and as your friend, desiring to help you to have your instruments in our hands first, I urge you to send the instruments prepared for the carbons either directly to Edison or to some one who can communicate with him without delay, so that he may be satisfied and we may get the instruments.

He will probably soon get tired of doing this, but I think it important to let him have his own way. If you think favorably of this, you may send the instruments direct to me, and I will get Mr. Bentley to go to Menlo Park with them and report Edison's conclusions.

Of course I have but one motive controlling me—that is, by some means to get completed efficient instruments, and a desire also that you may be in ahead of the others with them.

I sent Mr. Gray some sketches of what they are doing in the W. U. shops, and as he may not have seen you I send you duplicates, with copy of my remarks on them.

Please allow me again to urge all the rapidity possible in getting these instruments through in a satisfactory manner.

Yours truly,

SAMUEL S. WHITE.

Barton's Exhibit No. 7. July 23, '90. W. J. S., N. P.

JUNE 18, 1878.

S. S. WHITE, Esq.,

Philadelphia:

DEAR SIR: Your letter of June 15th, with suggestions in regard to the carbon telephones, was received yesterday.

The half dozen which we are trying to make "satisfactory to Mr. Edison" are completed, and we have sent him two of them by to-day's express.

He telegraphed last Friday that he would on Saturday send us some of the carbon buttons, that we might have a means of testing the working qualities of the instruments before we sent them out. The buttons have not been received, however, and unless they come in a day or two we will send all of the six instruments to Mr. Edison for him to put in the carbons.

From our knowledge of the delicacy of the carbon buttons and the nicety of the adjustment required, we are not at all surprised that he is anxious to put in the buttons and test the instruments himself.

We are disposed to conform to his wishes without raising the question whether they are reasonable or not, and with that idea have not attempted to make any improvements in the construction of his instruments.

We shall, however, go as far as to put on a couple of the handles described in your letter to Mr. Gray, but we have some question whether Edison will thank us for that.

When we get farther along, so that he is satisfied with our workmanship, we shall feel more like offering some suggestions.

Business is quite dull with us at present, and inasmuch as we have stopped work on the bipolar telephones, relieving you from the necessity of taking the 200 more which we were to make for you, and relieving Mr. Walker of some which he had ordered of us, we are quite anxious to get some of this work started, so as to keep our men busy.

Yours truly,

ENOS M. BARTON, *Sec'y.*

Barton's Exhibit No. 8. July 23, '90. W. J. S., N. P.

JUNE 18, 1878.

THOMAS A. EDISON, Esq.,
Menlo Park, N. J.:

DEAR SIR: I was in hopes to get some carbon buttons, so that we could take care that these telephones of yours were right in the important parts before sending them away, but think it best to send you a couple of the telephones, with induction-coils, as they are. When received I wish you would telegraph immediately whether they are substantially right, or whether they require important alterations.

I inclose a pencil memorandum giving a comparison of the way your telephones and ours correspond with the different gauges.

When we make tools to make different parts with, I hope we shall be able to turn them out so that they will go together without there being any question as to perfect fits.

Your letter of instructions was not handed to us by Mr. Bliss until Thursday of last week, at which time all the parts were under way. We have since then made some patterns for the outside castings with the words "Edison's Carbon Telephone" cast on the pieces, which we will have japanned and ready to send along in a few days.

Meantime we have nickel-plated these six, so as to get them done quickly. Japanning will be better when we get fairly to work, because nickel on iron will get rusty from handling.

Yours truly,

ENOS M. BARTON, *Sec'y.*

P. S.—Your telephone still continues to work well. Its adjustment has not been changed. We are strongly tempted to try to use its carbon button to test the new ones with.

Barton's Exhibit No. 9. July 23, '90. W. J. S., N. P.

JUNE 18, 1878.

Dr. A. MUIRHEAD,

London :

DEAR SIR: We shipped from here, on the 12th inst., four boxes, containing your articles, as per inclosed invoice, and also including the surgical instruments that were to go at the same time.

We have put the price of the goods and of the mica at exactly what they cost us.

The goods which we manufacture we have charged a small profit on, but making the prices considerably lower than we sell at to the home trade, as you will easily see by comparing with our catalogue.

If there should be any articles among those sent you for which your friends could find a market, we should be pleased to furnish them at the prices here charged. The key, relay, and sounder are instruments which we make in large quantities. The pocket relays are only made a few at a time.

We have received from Edison some carbon telephones and have made and sent forward to him a few of the same kind for his approval. If satisfactory to him we are to make a considerable quantity of them.

The sample which we have had here for ten days and upwards works admirably still without its adjustment having been changed since it left his hands. I believe it is the thing for city lines.

I received your note, written from New York, the 31st ult. Am glad you found Boston so much to your taste.

Capt. Bullwinkle inquired a few days ago whether I received his letter in New York. Please do not forget his request, as his heart is quite set upon having your statement of the time that he made in hitching up.

We shall hope to hear from you in regard to the chloride-of-silver battery and the American patent for it.

Yours truly,

E. M. BARTON, *Sec'y.*

(Indorsed :) Barton's Exhibits Nos. 1 to 9 inclusive. July 23d, 1890
W. J. S., N. P.

Barton's Exhibit No. 10. July 23, '90. W. J. S., N. P.

[Dated Menlo Park, N. J., 18. Received at 220 East Kinzie street, Chicago, 6-18-1878.]

To E. M. BARTON:

Glad to hear it; buttons sent by express Saturday.

T. A. EDISON.

10 col. 50.

Barton's Exhibit No. 11. July 24, 1890. W. J. S., N. P.

GOLD AND STOCK TELEGRAPH COMPANY,
WESTERN UNION BUILDING,
New York, July 8th, 1878.

M. G. KELLOGG,

Sup't Western Electric Mfg. Co., Chicago, Ill.:

DEAR SIR: Referring to our interview of Saturday, I beg to say that we do not desire as yet to have any receivers for the Edison telephones made at the Western Electric shops. We propose at first to use the magneto hand telephones which we now have, Gray's and Phelps', as receivers.

I have to request that you will confer with Mr. Phelps in respect to the most desirable form of Edison transmitter, induction-coil, key, and sounder, and that when you have decided upon it you will proceed, as rapidly as possible, to complete, at Chicago, the order for two hundred and fifty of these telephones, given to Mr. Barton on the 11th of June last.

Respectfully yours,

GEORGE WALKER,
Vice-Pres't.

Barton's Exhibit No. 12. July 24, '90. W. J. S., N. P.

JUNE 14, 1878.

THOS. A. EDISON, Esq.,

Menlo Park, N. J.:

DEAR SIR: In showing the carbon telephone and the microphone, so called, at the meeting of the Chicago Electrical Society on the 20th inst., I should be glad if I could state whether or not Prof. Hughes has done anything in the direction of the microphone that you had not already done yourself.

Have you made any diaphragmless telephones with carbons? About when, etc.?

I don't imagine they are good for anything as telephones, but it would be interesting to the society to have it stated, if you are so disposed, what your relation is to the microphone.

Yours truly,

ENOS M. BARTON, *Sec'y.*

Barton's Exhibit No. 13. July 24, 1890. W. J. S., N. P.

MENLO PARK, N. J., June 17, 1878.

ENOS M. BARTON, Esq.,

Chicago:

DEAR SIR: I am in receipt of your favor of the 14th, and hasten to reply. I state emphatically, what I am abundantly able to prove, that

7083 TEL—22

Prof. Hughes did *not* discover a single thing which was not already known to me. To sum it up, the microphone, so called, is my carbon telephone finely adjusted, and is of no practical value for a speaking telephone or for *anything else*, as the sounds heard in it are not *true* sounds. See last *Nature* a communication from Geo. M. Seabroke, of Rugby, Eng'd. He has got at the bottom facts and states them well. I worked over a year to make the so-called microphone a practical telephone. I have experimented a thousand times with diaphragmless telephones. They soon become useless on account of spittle. I tried this kind of telephone 2 years ago.

See Prescott's last work on the telephone, page 37, 5th line from the bottom; read to end of 2d line at the top of page 38.

Two weeks ago, while Prof. Barker was here on a visit, I put a carbon telephone on a wire leading to Mr. Batchelor's house with 12 miles resistance. Prof. B. went to the house. I talked to him from the laboratory; stood 100 feet from the ins't; he got every word I said in an ordinary tone. He also heard the workmen filing; also heard different ones walking about the shop. This telephone could also *be talked into in the ordinary manner*, the articulation being perfect. I do not think anything further is required of a telephone.

Very truly,

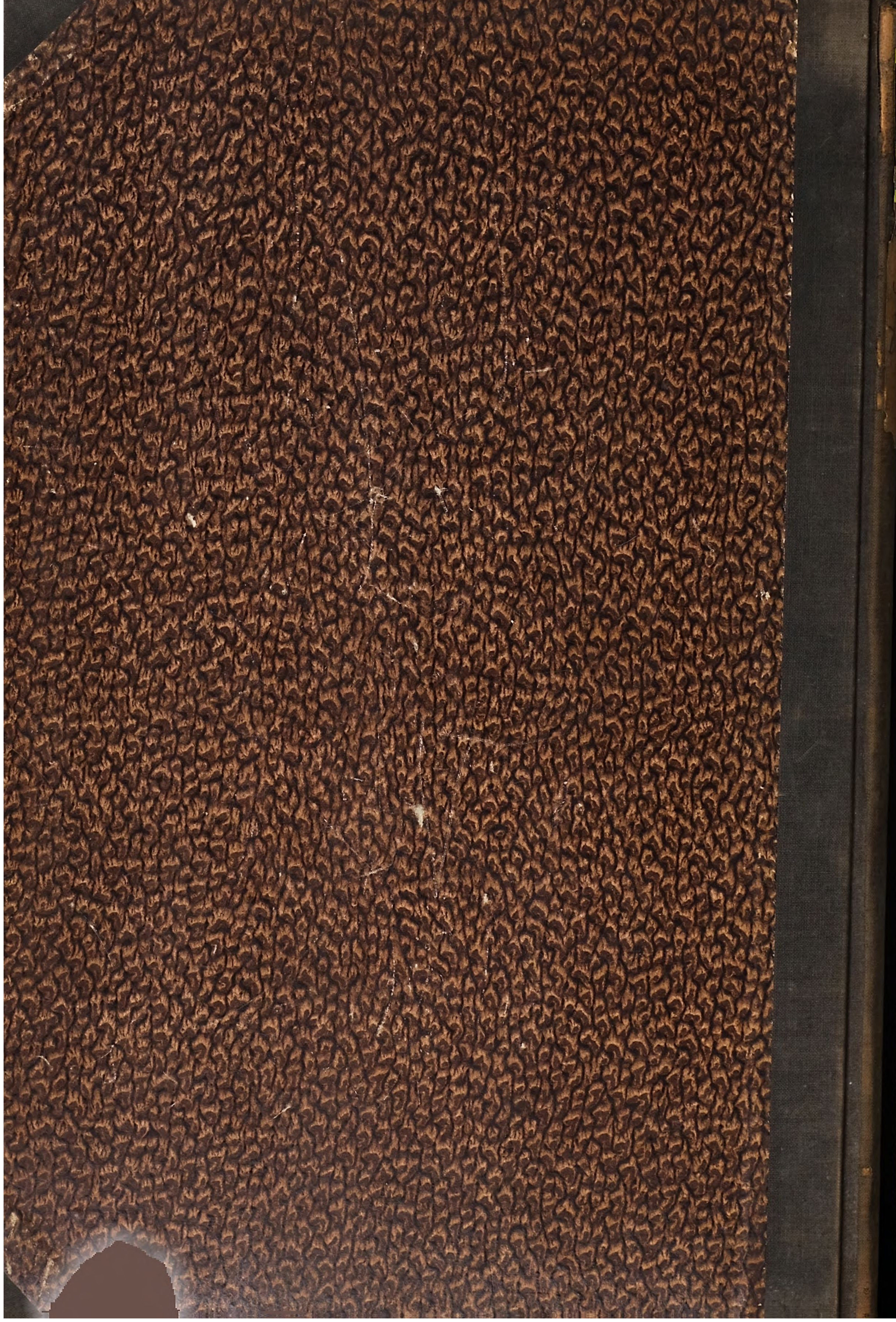
T. A. EDISON.
G.

INDEX.

	Page.
Testimony of Charles F. Chandler	3-13
Thomas A. Edison	13-27
Charles Batchelor	27-44
George M. Phelps	45-52
Abijah R. Brewer	52-57
Howard R. Butler	57-81
George B. Scott	81-119
George L. Wiley	119-150
Samuel M. Taylor	151-163
Joshua C. Massa	163-174
Albert Kinkel	174-177
Notice from counsel for Patent Office	178, 184, 185, 187, 205, 215
Stipulation between counsel	179-186
Testimony of Edward Farquhar	180, 181
William R. Bushby	181, 182
Thomas D. Lockwood	182, 183
E. Ward Wilkins	188-192
Samuel M. Plush	192-200
William P. Phelps	200-204
De Lancey H. Louderback	206-214
Elisha W. Bennett	215-219
Charles H. Summers	219-229
John J. S. Wilson	229-235
Charles H. Wilson	236-245
Enos M. Barton	245-259
Charles E. Scribner	260-265
Chandler's Exhibits Nos. 1 to 6 and 9 to 13	266-270
Edison's Exhibits Nos. 4 to 19	270-277
Brewer's Exhibits Nos. 1 to 35	277-292
Butler's Exhibits Nos. 1 to 19	292-302
Scott's Exhibits Nos. 1 and 2	302, 303
Wiley's Exhibit American District Company's orders	304, 305
Taylor's Exhibit voucher for \$82	306
Western Electric bill	306
Exhibit War Department records	307, 308
Howgate check, etc	308-310
C. A. Arthur contract and letters	310-312
Treasury Department letters	312-315
Health Department contract	315, 316
Chandler's application and contract with the Gold and Stock Company	316
Exhibit additional letters from the records of the Gold and Stock Company	316-328
Exhibit C. L. Wright & Co. contract	328-330
Bennett's Exhibit, Summers' receipt	330
Barton's Exhibits Nos. 1 to 13	330-338

INDEX

1-10	.....
11-20	.....
21-30	.....
31-40	.....
41-50	.....
51-60	.....
61-70	.....
71-80	.....
81-90	.....
91-100	.....
101-110	.....
111-120	.....
121-130	.....
131-140	.....
141-150	.....
151-160	.....
161-170	.....
171-180	.....
181-190	.....
191-200	.....
201-210	.....
211-220	.....
221-230	.....
231-240	.....
241-250	.....
251-260	.....
261-270	.....
271-280	.....
281-290	.....
291-300	.....
301-310	.....
311-320	.....
321-330	.....
331-340	.....
341-350	.....
351-360	.....
361-370	.....
371-380	.....
381-390	.....
391-400	.....
401-410	.....
411-420	.....
421-430	.....
431-440	.....
441-450	.....
451-460	.....
461-470	.....
471-480	.....
481-490	.....
491-500	.....
501-510	.....
511-520	.....
521-530	.....
531-540	.....
541-550	.....
551-560	.....
561-570	.....
571-580	.....
581-590	.....
591-600	.....
601-610	.....
611-620	.....
621-630	.....
631-640	.....
641-650	.....
651-660	.....
661-670	.....
671-680	.....
681-690	.....
691-700	.....
701-710	.....
711-720	.....
721-730	.....
731-740	.....
741-750	.....
751-760	.....
761-770	.....
771-780	.....
781-790	.....
791-800	.....
801-810	.....
811-820	.....
821-830	.....
831-840	.....
841-850	.....
851-860	.....
861-870	.....
871-880	.....
881-890	.....
891-900	.....
901-910	.....
911-920	.....
921-930	.....
931-940	.....
941-950	.....
951-960	.....
961-970	.....
971-980	.....
981-990	.....
991-1000	.....



In re Application of Daniel Drawbaugh, filed April 3, 1884, No. 126, 527
United States Patent Office. Division of application filed July, 26, 1880,
No 14,040. Telephones. Public use and sale proceeding. Testimony taken by
the Patent Office

Washington (1892)

2 Techn. 1 k

urn:nbn:de:bvb:12-bsb11465246-1